

# SUMMER 1968

(FOR JUNE, JULY AND AUGUST)  
Next issue September 1, 1968

July 72



United States Listings

radio amateur

# callbook

magazine

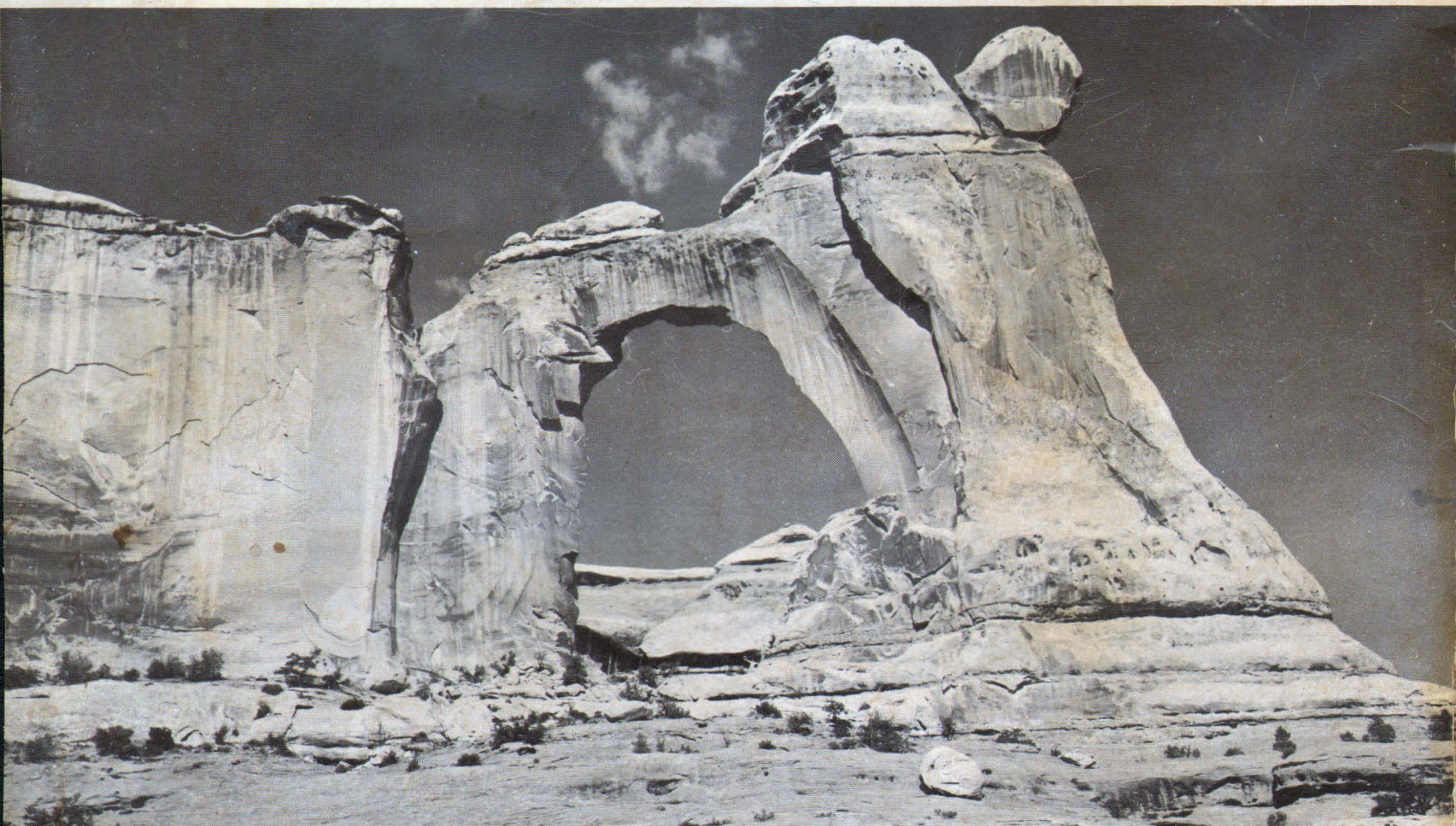


Photo courtesy U.S. Department of the Interior  
National Park Service

## UTAH

**RAINBOW BRIDGE**, Canyon Lands National Park, a colossus created by nature and seen by few visitors due to its location deep in the canyon country of southeastern Utah. Declared a national monument in 1910 by President Taft, this natural arch is considered the largest in the world, over 300 feet high and wide enough for a 2-lane highway. Utah, our 45th state, was admitted to the Union in 1896. There are 1,438 licensed radio amateurs in Utah.

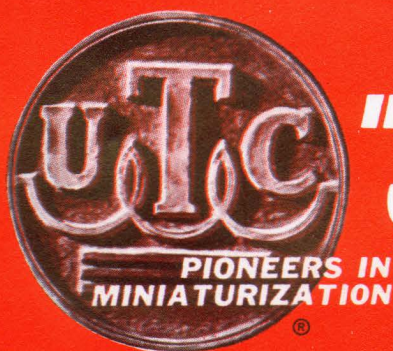
## in this issue

- 4,730 new licenses issued by FCC since the Spring 1968 issue.
- Over 30,000 changes in listings.
- 295,111 U. S. licensed radio amateurs.
- Radio Amateur prefixes of the world, with map, A.R.R.L. countries list.
- Great circle bearings, postal information, standard time charts, codes, "Q" signals . . . and many other features.
- QSL MANAGERS AROUND THE WORLD.
- STOP PRESS—late QTH's.
- Class of license on each call.
- THEN & NOW—Call letter changes.

The only publications listing licensed radio amateurs  
throughout the world.....Since 1920

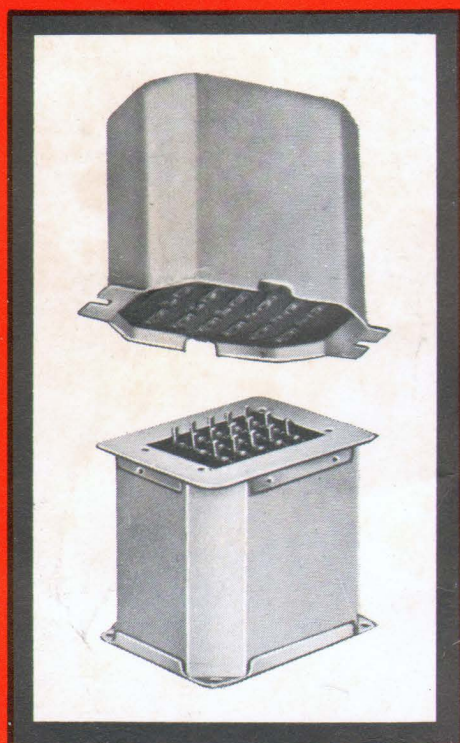
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# NEW

## DX Beam

## and

## Mobile Antenna

## by

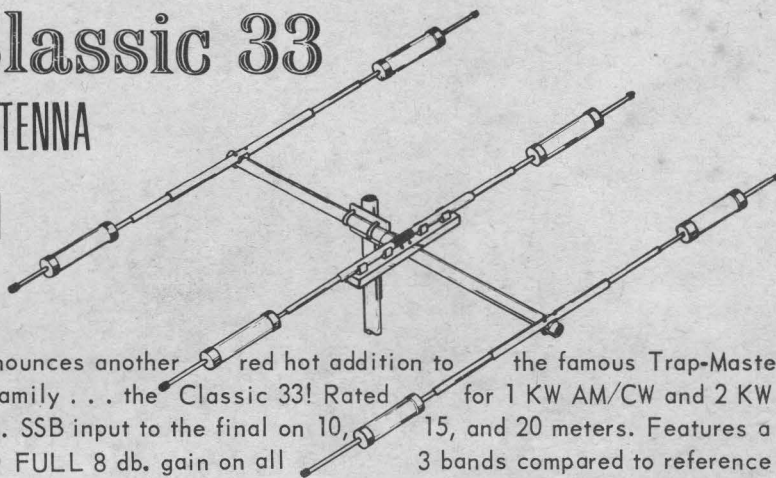
# MOSLEY

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## The Classic 33

### AMATEUR ANTENNA

for 10, 15, and 20 meters

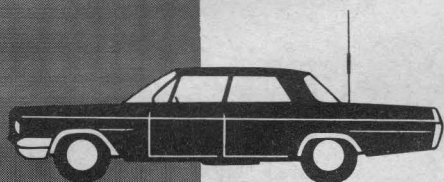


Mosley announces another red hot addition to the famous Trap-Master DX family . . . the Classic 33! Rated for 1 KW AM/CW and 2 KW P.E.P. SSB input to the final on 10, 15, and 20 meters. Features a FULL 8 db. gain on all 3 bands compared to reference dipole, or 10.1 db. over isotropic source.

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\* (Pat. Pend.)



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# radio amateur **callbook** magazine

known the world over as the "CALLBOOK"

## RADIO AMATEURS OF THE U.S.A.

VOLUME 46  
NUMBER 2

ALL K AND W CALLS

SUMMER 1968

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SECOND CALL AREA	45	SEVENTH CALL AREA	398
Includes the States of New Jersey and New York.		Includes the States of Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming.	
THIRD CALL AREA	126	EIGHTH CALL AREA	440
Includes the States of Delaware, Maryland, Pennsylvania, and the District of Columbia.		Includes the States of Michigan, Ohio and West Virginia.	
FOURTH CALL AREA	174	NINTH CALL AREA	503
Includes the States of Alabama, Florida, Georgia, Kentucky, North and South Carolina, Tennessee and Virginia.		Includes the States of Illinois, Indiana and Wisconsin.	
FIFTH CALL AREA	259	TENTH CALL AREA	561
Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.		Includes the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.	
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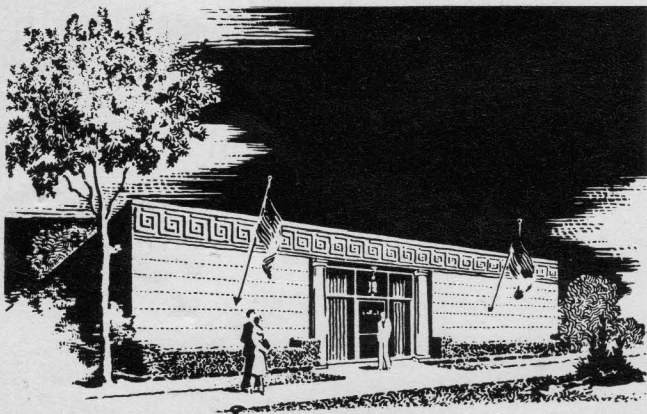
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The Home of RADIO AMATEUR CALLBOOK . . . . a modern air-conditioned building planned for maximum efficiency in the production of Callbooks and Callbook products.

A year around staff, through the use of electronic data processing equipment, evaluates and compiles the directory information received daily from all over the world. Extensive library and historical records are maintained to provide the most complete and accurate Callbook possible to produce.

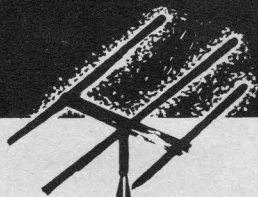
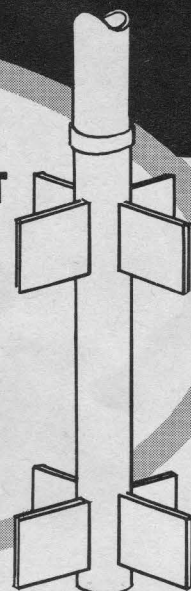
The Callbook had its beginning back in 1920 when there were just a few radio amateurs. Today, Callbooks and Callbook products are in use in every country of the world.



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# PREFIXES—BY COUNTRIES

The following countries listed in alphabetical order by country show international radio amateur prefixes. Characters in ( ) designate the continent and zone in which the country is located. Abbreviations are as follows: A—Asia, AF—Africa, E—Europe, NA—North America, O—Oceania, SA—South America.

Aden (South Yemen).....(A-21).....VS9  
Afghanistan.....(A-21).....YA  
Aland Is.....(E-15).....YH0  
Alaska.....(NA-1).....KL7  
Albania.....(E-15).....ZA  
Algeria.....(AF-33).....7X  
Amsterdam & St. Paul Is.....(AF-39).....FB8  
Andaman & Nicobar Is.....(A-26).....VU5  
Andorra.....(E-14).....PX1  
Angola.....(AF-36).....CR6  
Antarctica.....CE9AA-AM,FB8Y,KC4AA,  
KC4US,LA,LU-Z,OR5,VK0,  
VP8,UA1,ZL5,3Y,8J  
Argentina.....(SA-13).....LU  
Ascension Is.....(AF-36).....ZD8  
Austral & French Antarctic (A-39).....FB8  
Australia.....(O-29 & 30).....VK  
Austria.....(E-15).....OE  
Azores Is.....(E-14).....CT2

Bahama Is.....(NA-8).....VP7  
Bahrain Is.....(A-21).....MP4B  
Baker Is.....(O-31).....KB6  
Balearic Is.....(E-14).....EA6  
Barbados Is.....(NA-8).....8P6  
Belgium.....(E-14).....ON  
Bermuda Is.....(NA-5).....VP9  
Bhutan.....(A-22).....AC5  
Bolivia.....(SA-10).....CP  
Borneo.....(O-28).....8F5  
Botswana.....(AF-38).....ZS9  
Brazil.....(SA-11).....PY  
British Honduras.....(NA-7).....VP1  
British Phoenix Is.....(O-31).....VR1  
Brunei.....(O-28).....VS5  
Bulgaria.....(E-20).....LZ  
Burma.....(A-26).....XZ  
Burundi.....(AF-36).....9U5

Cambodia.....(A-26).....XU  
Cameroon.....(AF-36).....TJ  
Canada.....(NA-1 to 5).....VE  
Canal Zone.....(NA-7).....KZ5  
Canary Is.....(AF-33).....EA8  
Canton Is.....(O-31).....KB6  
Cape Verde Is.....(AF-35).....CR4  
Caroline Is.....(O-27).....KC6  
Cayman Is.....(NA-8).....ZF1  
Celebes & Molucca Is.....(O-28).....8F6  
Central African Republic.....(AF-36).....TL8  
Ceuta y Melilla, Spanish.....(A-33).....EA9  
Ceylon.....(A-22).....4S7  
Chad.....(AF-36).....TT8  
Chagos Is.....(AF-39).....VQ8  
Channel Is.....(E-14).....GC  
Chatham Is.....(O-32).....ZL  
Chile.....(SA-12).....CE  
China.....(A-23 & 24).....BY  
Christmas Is.....(O-29).....VK9  
Clipperton Is.....(NA-7).....F08  
Cocos Is.....(NA-7).....TI9  
Cocos-Keeling Is.....(O-29).....VK9  
Colombia.....(SA-9).....HK  
Comoro Is.....(AF-39).....FH8  
Congo, Republic of.....(AF-36).....TN8  
Congo, Republic of the.....(AF-36).....9Q5  
Cook Is.....(O-32).....ZK1  
Corsica.....(E-15).....FC  
Costa Rica.....(NA-7).....TI  
Crete.....(E-20).....SV  
Crozet Is.....(AF-39).....FB8  
Cuba.....(NA-8).....CM,C0  
Cyprus.....(A-20).....ZC4  
Czechoslovakia.....(E-15).....OK,OL

Dahomey.....(AF-35).....TY  
Das Is.....(A-21).....MP4D  
Denmark.....(E-14).....OZ  
Dodecanese Is.....(E-20).....SV5  
Dominican Republic.....(NA-8).....HI

Easter Is.....(SA-12).....CE0A  
Ecuador.....(SA-10).....HC  
Egypt.....(AF-34).....SU  
El Salvador.....(NA-7).....YS  
Enderbury Is.....(O-31).....KB6  
England.....(E-14).....G  
Ethiopia.....(AF-37).....ET3

Faeroes Is.....(E-14).....OY  
Falkland Is.....(SA-13).....VP8  
Fanning Is.....(O-31).....VR3  
Fernando de Noronha.....(SA-11).....PY7  
Fiji Is.....(O-32).....VR2  
Finland.....(E-15).....OH  
France.....(E-14).....F  
French Polynesia.....(O-32).....F08

Gabon.....(AF-36).....TR8  
Galapagos Is.....(SA-10).....HC8  
Gambia.....(AF-35).....ZD3  
German Federal Rep, West.....(E-14)DC,DJ,DK,DL  
German Dem. Rep, East.....(E-14).....DM  
Ghana.....(AF-35).....9G1  
Gibraltar.....(E-14).....ZB2  
Gilbert Is.....(O-31).....VR1  
Goa.....(A-22).....CR8  
Graham Land.....(SA-13).....VP8  
Greece.....(E-20).....SV  
Greenland.....(NA-40).....OX  
Guadeloupe Is.....(NA-8).....FG7  
Guantanamo Bay.....(NA-8).....KG4  
Guatemala.....(NA-7).....TG  
Guiana, French.....(SA-9).....FY7

Guinea, Portuguese.....(AF-35).....CR3  
Guinea, Republic of.....(AF-35).....7G1  
Guyana.....(SA-9).....8R

Haiti.....(NA-8).....HH  
Hawaii.....(O-31).....KH6  
Heard Is.....(O-39).....VK0  
Honduras.....(NA-7).....HR  
Hong Kong.....(A-24).....VS6  
Howland Is.....(O-31).....KB6  
Hungary.....(E-15).....HA,HG

Iceland.....(E-40).....TF  
Ifni.....(AF-33).....EA9  
India.....(A-22).....VU  
Indonesia.....(O-28).....8F  
Iran.....(A-21).....EP  
Iraq.....(A-21).....YI  
Ireland.....(E-14).....EI  
Isle of Man.....(E-14).....GD  
Israel.....(A-20).....4X4,4Z4  
Italy.....(E-15).....I  
Ivory Coast.....(AF-35).....TU2

Jamaica.....(NA-8).....6Y5  
Jan Mayen Is.....(E-40).....JX  
Japan.....(A-25).....JA,JH  
Jarvis Is.....(O-31).....KP6  
Java.....(O-28).....8F1,2,3  
Johnston Is.....(O-31).....KJ6  
Jordan.....(A-20).....JY  
Juan Fernandez Is.....(SA-12).....CE0Z

Kamran Is.....(A-21).....VS9K  
Kenya.....(AF-37).....5Z4  
Kerguelen Is.....(AF-39).....FB8  
Kermadec Is.....(O-32).....ZL1  
Korea.....(A-25).....HM,HL9  
Kuwait.....(A-21).....9K2

Labrador.....(NA-2).....V02  
Laccadive Is.....(A-22).....VU4  
Laos.....(A-26).....XW8  
Lebanon.....(A-20).....OD5  
Leeward Is. (West Indies).....(NA-8).....VP2  
Lesotho.....(AF-38).....7P8  
Liberia.....(AF-35).....EL,5L  
Libya.....(AF-34).....5A  
Liechtenstein.....(E-14).....HB0  
Line Is.....(O-31).....VR3  
Little America.....(SA-13).....KC4  
Lord Howe Is.....(O-30).....VK2  
Luxembourg.....(E-14).....LX

Macao.....(A-24).....CR9  
Macquarie Is.....(O-30).....VK0  
Madeira Is.....(AF-33).....CT3  
Madagascar.....(AF-39).....5R8  
Malawi.....(AF-37).....7Q7  
Malaysia, Federation of.....(A-28).....9M2  
Maldives Is.....(A-22).....VS9  
Mali Republic.....(AF-35).....TZ  
Malta.....(E-15).....9H1  
Manchuria.....(A-24).....BY9  
Manihiki Is.....(O-32).....HD1  
Marcus Is.....(A-27).....KG6  
Mariana Is.....(O-27).....KG6  
Marshall Is.....(O-31).....KX6  
Martinique.....(NA-8).....FM7  
Mauritania.....(AF-35).....5T5  
Mauritius Is.....(AF-39).....VQ8  
Mexico.....(NA-6).....XE,XF  
Midway Is.....(O-31).....KM6  
Monaco.....(E-14).....3A  
Mongolia.....(A-23).....JT1  
Morocco.....(AF-33).....CN  
Mozambique.....(AF-37).....CR7  
Muscat & Oman.....(A-21).....MP4M

Nauru Is.....(O-31).....VK9  
Navassa Is.....(NA-8).....KC4  
Nepal.....(A-22).....9N1  
Netherlands.....(E-14).....PA,PE,PI  
Netherlands Antilles.....(SA-9).....PJ  
New Caledonia.....(O-32).....FK8  
Newfoundland.....(NA-5).....V01  
New Guinea, N.E.....(O-28).....VK9  
New Hebrides.....(O-32).....F08,YJ  
New Zealand.....(O-32).....ZL  
Nicaragua.....(NA-7).....YN  
Niger.....(AF-35).....5U7  
Nigeria.....(AF-35).....5N2  
Niue Is.....(O-32).....ZK2  
Norfolk Is.....(O-32).....VK9  
Northern Ireland.....(E-14).....GI  
Norway.....(E-14).....LA

Pakistan.....(A-21,22).....AP  
Palmyra Is.....(O-31).....KP6  
Panama.....(NA-7).....HP  
Papua Territory.....(O-28).....VK9  
Paraguay.....(SA-11).....ZP  
Peru.....(SA-10).....OA  
Philippines.....(O-27).....DU  
Phoenix Is.....(O-31).....KB6  
Pitcairn Is.....(O-32).....VR6  
Poland.....(E-15).....SP  
Portugal.....(E-14).....CT1  
Prince Edward & Marion Is.....(AF-38).....ZS2  
Puerto Rico.....(NA-8).....KP4

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Reunion Is.....(AF-39).....FR7  
Revillagigedo Is.....(NA-6).....XE4  
Rhodesia.....(AF-38).....ZE  
Rio Muni.....(AF-36).....EA0  
Rodriguez Is.....(AF-39).....VQ8  
Rumania.....(E-20).....Y0  
Rwanda.....(AF-36).....9X5  
Ryukyu Is.....(A-25).....KR6,KR8

Saba Is.....(NA-8).....PJ(S)  
Sabah.....(O-28).....9M6  
Saint Helena Is.....(AF-36).....ZD7  
Saint Maarten Is.....(NA-8).....PJ2M  
Saint Martin Is.....(NA-8).....FS7  
Saint Pierre & Miquelon Is.....(NA-5).....FP8  
Samoa (U.S.).....(O-32).....KS6  
Samoa, Western.....(O-32).....5W1  
San Andres & Providencia.....(NA-7).....HK0  
San Marino.....(E-15).....M1,9A1  
Sao Tome & Principe Is.....(A-36).....CR5  
Sarawak.....(O-28).....9M8  
Sardinia.....(E-15).....IS  
Saudi Arabia.....(A-21).....HZ,7Z  
Scotland.....(E-14).....GM  
Senegal.....(AF-35).....6W8  
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Seychelles Is.....(AF-39).....VQ9  
Sicily.....(E-15).....IT  
Sierra Leone.....(AF-35).....9L1  
Sikkim.....(A-22).....AC3  
Singapore.....(A-28).....9V1  
Socotra Is.....(AF-37).....VS9  
Solomon Is.....(O-28).....VR4  
Somali Republic.....(AF-37).....60  
Somaliland, French.....(AF-37).....FL8  
South Africa.....(AF-38).....ZS  
South Georgia Is.....(SA-13).....VP8  
South Orkney Is.....(SA-13).....VP8  
South Sandwich Is.....(SA-13).....VP8  
South Shetland Is.....(SA-13).....CE9,VP8  
South-West Africa.....(AF-38).....ZS3  
Soviet Union:

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Socialist Republic.....(E-16).....UA1,3,4,6  
Asiatic Russian S.F.S.R.(A-18,19).....UA9,0  
Ukrainian S.S.R.....(E-16).....UB5  
White Russian S.S.R.....(E-16).....UC2  
Azerbaijani S.S.R.....(A-21).....UD6  
Georgian S.S.R.....(A-21).....UF6  
Armenian S.S.R.....(A-21).....UG6  
Turkmen S.S.R.....(A-17).....UH8  
Uzbek S.S.R.....(A-17).....UI8  
Tadzhik S.S.R.....(A-17).....UJ8  
Kazakh S.S.R.....(A-17).....UL7  
Kirghiz S.S.R.....(A-17).....UM8  
Karelo-Finnish S.S.R.....(E-16).....UN1  
Moldavian S.S.R.....(E-16).....UO5  
Lithuanian S.S.R.....(E-15).....UP  
Latvian S.S.R.....(E-15).....UQ  
Estonian S.S.R.....(E-15).....UR  
Spain.....(E-14).....EA  
Spanish Sahara (Rio de Oro).....(A-33).....EA9  
Sudan.....(AF-34).....ST  
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Surinam.....(SA-9).....PZ  
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Switzerland.....(E-14).....HB  
Syria.....(A-20).....YK

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Thailand.....(A-26).....HS  
Tibet.....(A-23).....AC4  
Timor Is. (Portuguese).....(O-28).....CR8  
Tinian Is.....(O-27).....KG6T  
Togo.....(AF-35).....5V  
Tokelau Is.....(O-31).....ZM7  
Tonga (Friendly) Is.....(O-32).....VR5  
Trinidad & Martin Vaz Is.....(SA-11).....PY0  
Trinidad & Tobago Is.....(SA-9).....9Y4  
Tristan de Cunha & Gough.....(AF-38).....ZD9  
Tromelin Is.....(AF-39).....FB8  
Trucial States.....(A-21).....MP4T  
Tunisia.....(AF-33).....3V8  
Turkey.....(A-20).....TA,TC  
Turks & Caicos Is.....(NA-8).....VP5

Uganda.....(AF-37).....5X5  
United Nations, Geneva.....(E-14).....4U  
United States of America.....(NA-3,4,5).....W,K  
Upper Volta.....(AF-35).....XT2  
Uruguay.....(SA-13).....CX

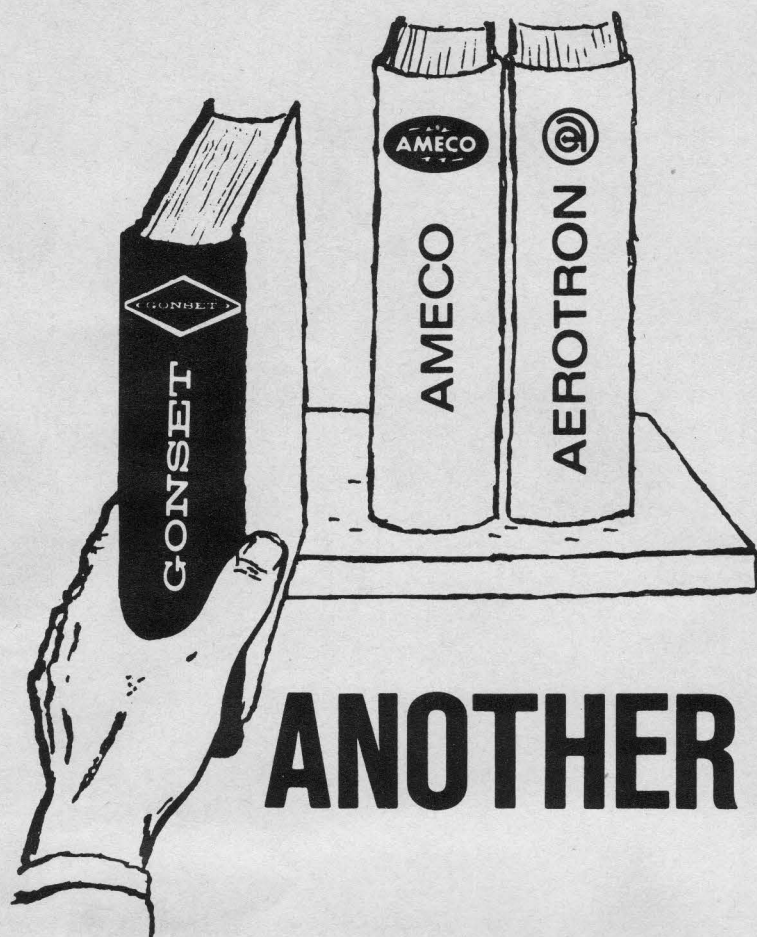
Vatican City.....(E-15).....HV  
Venezuela.....(SA-9).....YV  
Vietnam.....(A-26).....3W8  
Virgin Is.....(NA-8).....KV4  
Volcano & Bonin Is.....(A-27).....KG6I

Wake Is.....(O-31).....KW6  
Wales.....(E-14).....GW  
Wallis & Futuna Is.....(O-32).....FW8  
West Irian.....(O-28).....JZ0  
Windward Is. (West Indies).....(NA-8).....VP2

Yemen.....(A-21).....4W1  
Yugoslavia.....(E-15).....YU

Zambia.....(AF-36).....9I,9J  
Zanzibar.....(AF-37).....VQ1





## ANOTHER ADDITION

**AEROTRON** is proud to announce the acquisition of the famous Gonset line of quality amateur radio equipment. This acquisition appreciably broadens the line of equipment and components which we have to offer to the amateur and related markets. We are now shipping directly from our award-winning plant in Raleigh, the Gonset Communicators, Single Sideband VHF transceivers, HF and VHF linear amplifiers and other items bearing the Gonset name. In the coming months we will have even more.

**AEROTRON**, with more than twenty years in the two-way radio manufacturing business, has also acquired the AMECO Equipment Corporation during the past year. Ameco, formerly of Mineola, New York has been completely moved to our Raleigh plant and we are constantly adding to this popular line of economically priced equipment which is sold by more than a thousand radio supply outlets throughout the country.

The **GONSET** name has been a familiar and respected one by hams the world over for many years. It is with a great deal of pride that we now have it as a division of Aerotron, Inc.



**AEROTRON**

U. S. HIGHWAY 1, NORTH RALEIGH, NORTH CAROLINA 27608



# INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in locating the country when DX calls are heard.

AC3.....Sikkim  
AC4.....Tibet  
AC5.....Bhutan  
AP.....Pakistan

BV.....Taiwan  
BY.....China  
BY9.....Manchuria

CE.....Chile  
CE9.....South Shetland Is.  
CEØA.....Easter Is.  
CEØZ.....Juan Fernandez Is.

CM,CO.....Cuba  
CN.....Morocco  
CP.....Bolivia  
CR3.....Portuguese Guinea  
CR4.....Cape Verde Is.  
CR5.....Sao Tome & Principe Is.  
CR6.....Angola  
CR7.....Mozambique  
CR8.....Goa  
CR8.....Timor Is. (Portuguese)  
CR9.....Macao  
CT1.....Portugal  
CT2.....Azores Is.  
CT3.....Madeira Is.  
CX.....Uruguay

DC,DJ,DK,DL.....West German Federal Rep.  
DM.....East German Democratic Rep.  
DU.....Philippines

EA.....Spain  
EA6.....Balearic Is.  
EA8.....Canary Is.  
EA9.....Spanish Sahara, Ifni, Ceuta y Melilla  
EAØ.....Rio Muni  
EI.....Ireland  
EL,5L.....Liberia  
EP.....Iran  
ET3.....Ethiopia

F.....France  
FB8.....Austral and Antarctic French Lands,  
Amsterdam, St. Paul, Crozet, Kerguelen,  
Tromelin Is.  
FC.....Corsica  
FG7.....Guadeloupe Is.  
FH8.....Comoro Is.  
FK8.....New Caledonia  
FL8.....French Somaliland  
FM7.....Martinique  
FØ8.....French Polynesia, Clipperton Is.  
FP8.....St. Pierre & Miquelon Is.  
FR7.....Reunion Is.  
FS7.....Saint Martin  
FU8.....New Hebrides  
FW8.....Wallis & Futuna Is.  
FY7.....French Guiana

G.....England  
GC.....Channel Is.  
GD.....Isle of Man  
GI.....Northern Ireland  
GM.....Scotland  
GW.....Wales

HA,HG.....Hungary  
HB.....Switzerland  
HBØ.....Liechtenstein  
HC.....Ecuador  
HC8.....Galapagos Is.  
HD1.....Manihiki Is.  
HH.....Haiti  
HI.....Dominican Republic  
HK.....Colombia  
HKØ.....San Andres & Providencia Is.  
HM,HL9.....Korea  
HP.....Panama  
HR.....Honduras  
HS.....Thailand  
HV.....Vatican City  
HZ.....Saudi Arabia

I.....Italy  
IS.....Sardinia  
IT.....Sicily

JA,JH.....Japan  
JT1.....Mongolia  
JX.....Jan Mayen Is.  
JW.....Svalbard Is.  
JY.....Jordan  
JZØ.....West Irian

K.....United States of America  
KA.....U.S. Personnel in Japan  
KB6.....Baker, Canton, Enderbury,  
Howland & Phoenix Is.  
KC4.....Navassa Is.  
KC4AA,KC4US.....Antarctica  
KC6.....Caroline Is.  
KG1.....U.S. Personnel in Greenland  
KG4.....Guantanamo Bay, Cuba  
KG6.....Mariana Is. (Guam)  
KG6L.....Marcus, Volcano & Bonin Is.

KG6S.....Saipan Is.  
KG6T.....Tinian Is.  
KH6.....Hawaii  
KJ6.....Johnston Is.  
KL7.....Alaska  
KM6.....Midway Is.  
KP4.....Puerto Rico  
KP6.....Jarvis & Palmyra Is.  
KR6,KR8.....Ryukyu Is. (Okinawa)  
KS4.....Swan Is.  
KS4B.....Serrana Bank & Roncador Cay  
KS6.....U.S. Samoa  
KV4.....Virgin Is.  
KW6.....Wake Is.  
KX6.....Marshall Is.  
KZ5.....Canal Zone

LA.....Norway  
LU.....Argentina  
LX.....Luxembourg  
LZ.....Bulgaria

M1.....San Marino  
MP4.....Bahrain and Das Is.,  
Muscat & Oman, Qatar, Trucial States

OA.....Peru  
OD5.....Lebanon  
OE.....Austria  
OH.....Finland  
OHØ.....Åland Is.  
OK,OL.....Czechoslovakia  
ON.....Belgium  
OX.....Greenland  
OY.....Faeroes Is.  
OZ.....Denmark

PA,PE,PI.....Netherlands  
PJ.....Netherlands Antilles  
PJ(A).....Aruba  
PJ(B).....Bonaire  
PJ(C).....Curacao  
PJ(E).....St. Eustatius  
PJ(M).....Saint Maarten  
PJ(S).....Saba Is.  
PX1.....Andorra  
PY.....Brazil  
PY7.....Fernando de Noronha Is.  
PYØ.....Trindade & Martin Vaz Is.  
PZ.....Surinam

SL,SM.....Sweden  
SP.....Poland  
ST.....Sudan  
SU.....Egypt  
SV.....Crete, Greece  
SV5.....Dodecanese Is.

TA,TC.....Turkey  
TF.....Iceland  
TG.....Guatemala  
TI.....Costa Rica  
TI9.....Cocos Is.  
TJ.....Cameroun  
TL8.....Central African Republic  
TN8.....Republic of Congo (Brazzaville)  
TR8.....Gabon  
TT8.....Chad  
TU2.....Ivory Coast  
TY.....Dahomey  
TZ.....Mali Republic

UA1,3,4,6.....European Russian  
Soviet Federated Socialist Republic  
UA9,Ø.....Asiatic Russian S.F.S.R.  
UB5.....Ukrainian S.S.R.  
UC2.....White Russian S.S.R.  
UD6.....Azerbaijdzhan S.S.R.  
UF6.....Georgian S.S.R.  
UG6.....Armenian S.S.R.  
UH8.....Turkmen S.S.R.  
UI8.....Uzbek S.S.R.  
UJ8.....Tadzhik S.S.R.  
UL7.....Kazakh S.S.R.  
UM8.....Kirghiz S.S.R.  
UN1.....Karelo-Finnish S.S.R.  
UØ5.....Moldavian S.S.R.  
UP.....Lithuanian S.S.R.  
UQ.....Latvian S.S.R.  
UR.....Estonian S.S.R.

VE.....Canada  
VK.....Australia  
VK2.....Lord Howe Is.  
VK7.....Tasmania  
VK9.....New Guinea, Papua, Christmas,  
Cocos-Keeling, Nauru, Norfolk Is.  
VKØ.....Heard & Macquarie Is., Antarctica  
VO1.....Newfoundland  
VO2.....Labrador  
VP1.....British Honduras  
VP2.....Leeward & Windward Is.  
VP5.....Turks & Caicos Is.  
VP7.....Bahama Is.  
VP8.....Falkland, S. Georgia, S. Orkney,  
S. Sandwich, S. Shetland Is., Graham Land  
VP9.....Bermuda Is.

VQ1.....Zanzibar  
VQ8.....Chagos, Mauritius & Rodriguez Is.  
VQ9.....Seychelles Is.  
VR1.....Br. Phoenix, Ellice, Gilbert & Ocean Is.  
VR2.....Fiji Is.  
VR3.....Fanning, Line Is.  
VR4.....Solomon Is.  
VR5.....Tonga Is.  
VR6.....Pitcairn Is.  
VS5.....Brunei  
VS6.....Hong Kong  
VS9.....South Yemen,  
Maldives, Kamarin, Socotra Is.  
VU.....India  
VU4.....Laccadive Is.  
VU5.....Andaman & Nicobar Is.

W.....United States of America

XE,XF.....Mexico  
XE4.....Revillagigedo Is.  
XT2.....Upper Volta  
XU.....Cambodia  
XW8.....Laos  
XZ.....Burma

YA.....Afghanistan  
YI.....Iraq  
YJ.....New Hebrides  
YK.....Syria  
YN.....Nicaragua  
YO.....Rumania  
YS.....El Salvador  
YU.....Yugoslavia  
YV.....Venezuela

ZA.....Albania  
ZB2.....Gibraltar  
ZC4.....Cyprus  
ZD3.....Gambia  
ZD5.....Swaziland  
ZD7.....Saint Helena  
ZD8.....Ascension Is.  
ZDØ.....Tristan da Cunha & Gough Is.  
ZE.....Rhodesia  
ZF1.....Cayman Is.  
ZK1.....Cook Is.  
ZK2.....Niue Is.  
ZL.....New Zealand  
ZL1.....Kermadec  
ZM7.....Tokelau Is.  
ZP.....Paraguay  
ZS.....South Africa  
ZS2.....Prince Edward & Marion Is.  
ZS3.....South-West Africa  
ZS9.....Botswana

3A.....Monaco  
3V8.....Tunisia  
3W8.....Vietnam  
3Y.....Norwegian Terr. in Antarctica  
4S7.....Ceylon  
4U.....United Nations, Geneva  
4W1.....Yemen  
4X4,4Z4.....Israel  
5A.....Libya  
5H3.....Tanzania  
5N2.....Nigeria  
5R8.....Madagascar  
5T5.....Mauritania  
5U7.....Niger  
5V.....Togo  
5W1.....Western Samoa  
5X5.....Uganda  
5Z4.....Kenya  
6Ø.....Somali Republic  
6W8.....Senegal  
6Y5.....Jamaica  
7G1.....Republic of Guinea  
7P8.....Lesotho  
7Q7.....Malawi  
7X.....Algeria  
7Z.....Saudi Arabia  
8F.....Indonesia  
8F1,2,3.....Java  
8F4.....Sumatra  
8F5.....Borneo  
8F6.....Celebes & Molucca Is.  
8P6.....Barbados Is.  
8R.....Guyana  
9A1.....San Marino  
9G1.....Ghana  
9H1.....Malta  
9I,9J.....Zambia  
9K2.....Kuwait  
9L1.....Sierra Leone  
9M2.....Federation of Malaysia  
9M6.....Sabah  
9M8.....Sarawak  
9N1.....Nepal  
9Q5.....Republic of the Congo (Kinshasa)  
9U5.....Burundi  
9V1.....Singapore  
9X5.....Rwanda  
9Y4.....Trinidad & Tobago Is.



# TELEGRAPH CODES

CONTINENTAL CODE	MORSE CODE
Used in radio, on submarine cables and abroad	Used on land lines in United States and Canada
<p>A .- -</p> <p>B - . . .</p> <p>C - . - .</p> <p>D - . . -</p> <p>E .</p> <p>F . - . .</p> <p>G - . - -</p> <p>H . . . .</p> <p>I . .</p> <p>J - . - - -</p> <p>K - . -</p> <p>L . - . .</p> <p>M - - .</p> <p>N - . -</p> <p>O - - -</p> <p>P . - . .</p> <p>Q . - - .</p> <p>R . - .</p> <p>S . . -</p> <p>T - -</p> <p>U . - -</p> <p>V . . - .</p> <p>W . - . -</p> <p>X - . - .</p> <p>Y - . - -</p> <p>Z - - . -</p>	<p>A .- -</p> <p>B - . . .</p> <p>C - . - .</p> <p>D - . . -</p> <p>E .</p> <p>F . - . .</p> <p>G - . - -</p> <p>H . . . .</p> <p>I . .</p> <p>J - . - - -</p> <p>K - . -</p> <p>L . - . .</p> <p>M - - .</p> <p>N - . -</p> <p>O - - -</p> <p>P . - . .</p> <p>Q . - - .</p> <p>R . - .</p> <p>S . . -</p> <p>T - -</p> <p>U . - -</p> <p>V . . - .</p> <p>W . - . -</p> <p>X - . - .</p> <p>Y - . - -</p> <p>Z - - . -</p>
There are no space letters in the Continental Code	C, O, R, Y, Z and are composed of dots and spaces T is a short dash L is a longer dash Zero (0) is usually abbreviated to T
<p>Figures</p> <p>1 . - - - -</p> <p>2 . - - - .</p> <p>3 . - - . -</p> <p>4 . - . - -</p> <p>5 . . . . -</p> <p>6 . . . - .</p> <p>7 . . - . -</p> <p>8 . . - . .</p> <p>9 . . - . -</p> <p>0 . - - - -</p>	<p>Figures</p> <p>1 . - - . .</p> <p>2 . - . . .</p> <p>3 . . . . .</p> <p>4 . . . - .</p> <p>5 . - . . .</p> <p>6 . - . . .</p> <p>7 . - . . .</p> <p>8 . - . . .</p> <p>9 . - . . .</p> <p>0 . - - - -</p>
<p>Punctuation</p> <p>(.) . - . . . -</p> <p>(,) . - . - . -</p> <p>(?) . - . . . .</p> <p>(:) . - . . . .</p> <p>(;) . - . . . .</p> <p>(-) . - . . . .</p> <p>(!) None at present</p> <p>(') . - . . . .</p> <p>(/) . - . . . .</p> <p>(\) . - . . . .</p> <p>(") . - . . . .</p>	<p>Punctuation</p> <p>(.) . - . - . .</p> <p>(,) . - . . . .</p> <p>(?) . - . . . .</p> <p>(:) . - . . . .</p> <p>(;) . - . . . .</p> <p>(-) . - . . . .</p> <p>(!) . - . . . .</p> <p>(') . - . . . .</p> <p>(/) . - . . . .</p> <p>(\) . - . . . .</p> <p>(") . - . . . .</p>

## EMERGENCY SIGNAL

**QRRR** (The land SOS) To be used only by a station in the affected area when calling with an emergency message.

## Build RELIABILITY into your equipment with SPRAGUE

### 'LYTIC CAPACITORS

**Twist-Lok® Electrolytics**



Hermetically sealed in aluminum cases. Withstand high temperatures (85° C), high surge voltages, high ripple currents.



**Atom® Electrolytics**

Tiny, dependable single or multiple section units. Low leakage, long shelf life. Metal cases.



**Littl-Lytic® Electrolytics**

Ultra-small, excellent for transistorized circuitry. All-welded construction—no pressure joints to cause "opens". Long shelf life.



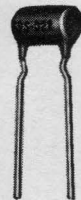
**Transi-lytic® Capacitors**

Miniature low-cost capacitors for transistorized and other low voltage circuitry. Special low-leakage current construction. Plastic case provides excellent resistance to high humidity.

### DIFILM® CAPACITORS



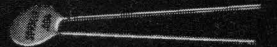
**Black Beauty® Molded Tubulars**  
Dual dielectric (polyester film and paper) combines best features of both. Solid impregnant, nothing to leak or drip. Molded phenolic case. Withstand high temperatures, high humidity.



**Orange Drop® Dipped Tubulars**

Dual dielectric (polyester film and paper), with solid impregnant. Double-dipped in epoxy resin. Radial leads, ideal for printed wiring boards.

### CERAMIC CAPACITORS



**Cera-Mite® Disc Types**

Extremely wide range of capacitance values and voltage ratings. Available in general-application, high-K, temperature-stable, and temperature-compensating types.



**Buttonhead Types**

Flat disc capacitor element sealed in top of hex head. Screw stud for easy mounting. Low self-inductance, high self-resonant frequency. Ideal for by-pass or feed-thru applications.

### HYPASS® CAPACITORS



Exclusive 3-terminal feed-thru units which effectively by-pass vhf currents. Suppress TVI from transmitters, diathermy, line-conducted radiation, etc.

### OIL CAPACITORS

**Rectangular Oils**



For transmitter power supplies and other high voltage applications. Hermetically sealed in rugged metal cases. Oil-impregnated, oil-filled. High insulation resistance.



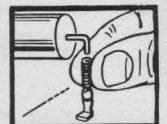
**Screwbase Oils**

Cylindrical screwbase can for easy single hole mounting. Oil-impregnated, oil filled. Small size, will fit tight spaces.

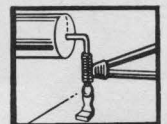
### KWIKETTE® SOLDERING AIDS

Not just another wire spring connector! Copperweld wire inner core, intermediate layer of flux, outer jacket of solder... all you need is heat!

(4x actual size)



SLIP ON KWIKETTE...



WIRE SOLDER FLUX

AND APPLY HEAT!

For complete data on these and other Sprague components, get Catalog C-617 from your Sprague Distributor, or write Sprague Products Co., 95 Marshall Street, North Adams, Mass. 01247

68-102-63R9

**SPRAGUE®**  
THE MARK OF RELIABILITY



# A. R. R. L. COUNTRIES LIST

The ARRL Postwar Countries List is the official standard used in connection with the DX Century Club. To qualify for the DX Century Club Award, an applicant must submit confirmations from at least 100 different countries contacted after November 15, 1945, in accordance with the Postwar DXCC Rules. Copies of the DXCC Rules will be furnished by ARRL on request.

AC3.....Sikkim  
AC4.....Tibet  
AC.....Bhutan  
AP.....East Pakistan  
AP.....West Pakistan

BV, (C3).....Formosa  
BY, (C).....China

\*C9.....Manchuria  
CE.....Chile  
CE9, KC4, LU-Z, VK0, VP8, OR4, etc.....Antarctica  
CE9 (See VP8)  
CE9A.....Easter Island  
CE0X.....San Felix  
CE0Z.....Juan Fernandez arch.  
CM, CO.....Cuba  
\*CN2.....Tangier  
CN2, 8, 9.....Morocco  
CP.....Bolivia  
CR 3, 5.....Portuguese Guinea  
CR4.....Cape Verde Islands  
CR5.....Principe, Sao Thome  
CR6.....Angola  
CR7.....Mozambique  
\*CR8.....Damao, Diu  
\*CR8.....Goa  
CR8, CR10.....Portuguese Timor  
CR9.....Macao  
CT1.....Portugal  
CT2.....Azores  
CT3.....Madeira Islands  
CX.....Uruguay

DJ, DL, DM.....Germany  
DU.....Philippine Islands

EA.....Spain  
EA6.....Balearic Islands  
EA8.....Canary Islands  
EA9.....Ifni  
EA9.....Morocco  
EA9.....Spanish Morocco  
EA9.....Spanish Guinea  
EL.....Republic of Ireland  
EL.....Liberia  
EP.....Iran  
\*ET2.....Eritrea  
ET3.....Ethiopia

F.....France  
FA, 7X2, 3.....Algeria  
FB8.....Amsterdam & St. Paul Is.  
FB8.....Crozet Is.  
FB8 (See FB8)  
FB8.....Kerguelen Islands  
FB8 (See 5R8)  
FB8 (See FR7)  
FC (unofficial).....Corsica  
FD (See 5V)  
FE8 (See TJ)  
FF4 (See TU)  
FF7 (See 5T)  
FF8 (See TV)  
FF8 (See TZ)  
FF8 (See 5U7)  
FF8 (See XT)  
FF8 (See 6W8)

\*FF8.....French West Africa  
FG7.....Guadeloupe  
FH8, FB8.....Comoro Islands  
\*F18.....French Indo-China  
FK8.....New Caledonia  
FL8.....French Somaliland  
FM7.....Martinique  
\*FN.....French India  
F08.....Clipperton Island  
F08.....French Oceania  
FP8.....St. Pierre & Miquelon Is.  
FQ8 (See TL)  
FQ8 (See TT)  
FQ8 (See TN)  
FQ8 (See TR)  
\*FQ8.....French Equatorial Africa  
\*FR7.....Glorioso Islands  
\*FR7.....Juan de Nova  
FR7.....Reunion  
FR7.....Tromelin  
FS7.....Saint Martin  
FUB, YJ.....New Hebrides  
FW8.....Wallis & Futuna Islands  
FY7.....French Guiana & Inini

G.....England  
GC.....Guernsey & Dependencies  
GC.....Jersey Island  
GD.....Isle of Man  
GI.....Northern Ireland  
GM.....Scotland  
GW.....Wales

HA.....Hungary  
HB.....Switzerland  
HC.....Ecuador  
HC8.....Galapagos Islands  
HE, HB0.....Liechtenstein  
HH.....Haiti  
HI.....Dominican Republic  
HK.....Colombia  
HK0.....Bajo Nuevo  
HK0.....Malpelo Is.  
HK0.....San Andres & Providencia  
HL, HM.....Korea  
HP.....Panama  
HR.....Honduras  
HS.....Thailand  
HV.....Vatican  
HZ, 7Z.....Saudi Arabia

IL, IT1.....Italy  
\*I1.....Trieste  
\*I5.....Italian Somaliland  
IS1.....Sardinia  
JA, KA.....Japan  
JT1.....Mongolia  
JY.....Jordan  
\*JZ0.....Netherlands New Guinea

K, W.....United States of America  
KA (See JA)  
KB0.....Baker, Howland & American Phoenix Islands  
KC4 (See CE9)  
KC4.....Navassa Island  
KC6.....Eastern Caroline Isls.  
KC6.....Western Caroline Isls.  
KG1 (See 0X)  
KG4.....Guantanamo Bay  
KG6.....Marcus Island  
KG6.....Mariana Islands  
KG6.....Bonin & Volcano Islands

KH6.....Hawaiian Islands  
KH6.....Kure Island  
KL6.....Johnston Island  
KL7.....Alaska  
KM6.....Midway Islands  
KP4.....Puerto Rico  
KP6.....Palmyra Group, Jarvis Is.  
KR6.....Ryukyu Islands  
KS4B.....Serrana Bank & Roncador Cay  
KS4.....Swan Islands  
KS6.....American Samoa  
KV4.....Virgin Islands  
KW6.....Wake Island  
KX6.....Marshall Islands  
KZ5.....Canal Zone

LA.....Bouvet Island  
LA.....Jan Mayen  
LA.....Norway  
LA.....Svalbard  
LU.....Argentina  
LU-Z (See CE9)  
LX.....Luxembourg  
LZ.....Bulgaria

M1, 9A1.....San Marino  
MP4.....Bahrein  
MP4.....Qatar  
MP4M, VS9.....Sultanate of Muscat & Oman  
MP4.....Trucial Oman

OA.....Peru  
OD5.....Lebanon  
OE.....Austria  
OH.....Finland  
OH0.....Aland Islands  
OK.....Czechoslovakia  
ON4, 5 (See 905)  
OQ5.....Belgium  
OX, KG1.....Greenland  
OY.....Faroe Islands  
OZ.....Denmark

PA0, PI1.....Netherlands  
PJ.....Netherlands Antilles  
PJ2M.....Sint Maarten  
\*PK1, 2, 3.....Java  
\*PK4.....Sumatra  
\*PK5.....Netherlands Borneo  
\*PK6.....Celebes & Molucca Islands  
PX.....Andorra  
PY.....Brazil  
PY0.....Fernando de Noronha  
PY0.....St. Peter & St. Paul's Rocks  
PY0.....Trindade & Martin Vaz Is.  
PZ1.....Surinam

SL, SM.....Sweden  
SP.....Poland  
ST2.....Sudan  
SU.....Egypt  
SV.....Crete  
SV.....Dodecanese  
SV.....Greece

TA.....Turkey  
TF.....Iceland  
TG.....Guatemala  
TI.....Costa Rica  
TJ.....Cocos Island  
TJ.....Cameron  
\*TL.....Central African Rep.  
\*TN.....Congo Rep.  
\*TR.....Gabon Rep.  
\*TU.....Chad Rep.  
\*TU.....Ivory Coast  
\*TY.....Dahomey Rep.  
\*TZ.....Mali Rep.

UA, UV, UW1-6, UN1.....European Russian S. F. S. R.  
UA1.....Franz Josef Land  
UA2.....Kaliningradsk  
UA, UW9, 0.....Asiatic R. S. F. S. R.  
UB5, UT5.....Ukraine  
UC2.....White Russian, S. S. R.  
UD6.....Azerbaijan  
UF6.....Georgia  
UG6.....Armenia  
UH9.....Turkmenistan  
UI8.....Uzbek  
UJ8.....Tadzhik  
UL7.....Kazakh  
UM8.....Kirghiz  
\*UN1.....Karelo-Finnish Republic  
UO5.....Moldavia  
UP2.....Lithuania  
UQ2.....Latvia  
UR2.....Estonia

VE, VO.....Canada  
VK.....Australia (inc. Tasmania)  
VK.....Lord Howe Island  
VK.....Willis Islands  
VK9, ZC3.....Christmas Island  
VK9.....Cocos Islands  
VK9.....Nauru Island  
VK9.....Norfolk Island  
VK9.....Papua Territory  
VK9 (See CE9)  
VK9.....Heard Island  
VK0.....Macquarie Island  
\*VO (See VE)

\*VO.....Newfoundland, Labrador  
VP1.....British Honduras  
\*VP2.....Anguilla  
\*VP2.....Antigua, Barbuda  
\*VP2.....British Virgin Islands  
\*VP2.....Dominica  
\*VP2.....Grenada & Dependencies  
\*VP2.....Montserrat  
\*VP2.....St. Kitts, Nevis  
\*VP2.....St. Lucia  
\*VP2.....St. Vincent & Dependencies  
VP3.....British Guiana  
VP4, 9Y4.....Trinidad & Tobago  
VP5.....Cayman Islands  
VP5 (See 6Y5)  
VP5.....Turks & Caicos Islands  
VP6.....Barbados  
VP6.....Bahama Islands  
VP8 (See CE9)  
VP8.....Falkland Islands  
VP8, LU-Z.....So. Georgia Is.  
VP8, LU-Z.....So. Orkney Is.  
VP8, LU-Z.....So. Sandwich Is.  
VP8, LU-Z, CE9.....So. Shetland Is.  
VP9.....Bermuda Islands  
VQ1.....Zanzibar  
VQ2 (See 9J2)  
VQ3 (See 5H3)  
VQ4 (See 5Z4)  
VQ5 (See 5X5)

\*VQ6.....British Somaliland  
VQ8.....Agalega & St. Brandon  
VQ8.....Chagos Islands  
VQ8.....Mauritius  
VQ8.....Rodriguez Island  
VQ9.....Aldabra Isls.  
VQ9.....Seychelles  
VR1.....British Phoenix Islands  
VR1.....Gilbert & Ellice Isls. & Ocean Island  
VR2.....Fiji Islands  
VR3.....Fanning & Christmas Is.  
VR4.....Solomon Islands  
VR5.....Tonga Islands  
VR6.....Pitcairn Island  
\*VS1, 9M4  
VS1, 9M2 (See 9M2, 4)  
VS2 (See 9M2)  
\*VS4.....Sarawak  
VS4, ZC5 (See 9M6, 8)  
VS5.....Brunei  
VS6.....Hong Kong  
VS9.....Aden & Socotra  
VS9K.....Kamran Is.  
VS9H.....Kuria Muria Isls.  
VS9M.....Maldiv Islands  
VS9 (See MP4)  
VU.....Andaman & Nicobar Isls.  
VU.....India  
VU.....Laccadive Islands

W (See K)

XE, XF.....Mexico  
XF4.....Revilla Gigeo  
\*XT.....Voltaic Rep.  
XU.....Cambodia  
XV5 (See 3W8)  
XW8.....Laos  
XZ2.....Burma

YA.....Afghanistan  
YL.....Iraq  
YJ (See FUB)  
YK.....Syria  
YN, YN0.....Nicaragua  
YO.....Rumania  
YS.....Salvador  
YU.....Yugoslavia  
YV.....Venezuela  
YV0.....Aves Island

ZA.....Albania  
ZB1, 9H1.....Malta  
ZB2.....Gibraltar  
ZC3 (See VK9)  
ZC4 (See 5B4)  
ZC5 (See 9M6, 8)  
\*ZC5.....British North Borneo  
ZC6.....Palestine  
ZD1 (See 9L1)  
ZD2 (See 5N2)  
ZD3.....The Gambia  
ZD4 (See 9G1)  
\*ZD4.....Gold Coast, Togoland  
ZD5, Z57.....Swaziland  
ZD6 (See 7Q7)  
ZD7.....St. Helena  
ZD8.....Ascension Island  
ZD9.....Tristan da Cunha & Gough Island  
ZE.....Rhodesia  
ZF1 (See VP5)  
ZK1.....Cook Islands  
ZK1.....Manihiki Islands  
ZK2.....Niue  
ZL.....Auckland Is. & Campbell Is.  
ZL.....Chatham Islands  
ZL.....Kermadec Islands  
ZL.....New Zealand  
ZLS (See CE9)  
ZM6.....Western Samoa  
ZM7.....Tokelau  
ZP.....Paraguay  
ZS1, 2, 4, 5, 6.....South Africa  
ZS2.....Prince Edward & Marion Is.  
ZS3.....Southwest Africa  
ZS7 (See ZD5)  
ZS8.....Basutoland  
ZS9.....Bechuanaland

1S.....Spratly Is.  
3A.....Monaco  
3VB.....Tunisia  
3WB, XV5.....Vietnam  
4S7.....Ceylon  
4U.....I. T. U. Geneva  
4W.....Yemen  
4X.....Israel  
5A.....Libya  
5B4, ZC4.....Cyprus  
5H3, VQ3.....Tanganyika  
5N2, ZD2.....Nigeria  
5R8, FB8.....Malagasy Rep.  
\*5T.....Mauritania  
\*5U7.....Niger Rep.  
5V.....Togo Rep.  
5W1 (See ZM6)  
5X5, VQ5.....Uganda  
5Z4, VQ4.....Kenya

601, 2, 6.....Somali Rep.  
\*6WB, FF8.....Senegal Rep.  
6Y5, VP5.....Jamaica  
7G1.....Rep. of Guinea  
7Q7, ZD6.....Malawi  
7X2, 3 (See FA)  
7Z (See HZ)

8F.....Indonesia  
8Z4.....Saudi Arabia/Iraq Neutral Zone  
8Z5 (See 9K3)  
9A1 (See M1)  
\*9G1, ZD4.....Ghana  
9H1 (See ZB1)  
9J2, VQ2.....Zambia  
9K2.....Kuwait  
9K3, 8Z5.....Kuwait/Saudi Arabia Neutral Zone  
9L1, ZD1.....Sierra Leone  
\*9M2, 4.....Malaya  
\*9M6, 8.....West Malaysia  
9N1.....East Malaysia  
9Q5, 0Q5, 0.....Rep. of the Congo  
\*9S4.....Saar  
\*9U5.....Burundi  
\*9U5.....Ruanda-Urundi  
\*9X5.....Rwanda  
9Y4 (See VP4)





## The Radio Amateur's Journal

Articles, departments, and features conceived, written and edited with the interests of the active ham in mind. Published monthly, CQ contains regular departments and features covering VHF, RTTY, DX, Novice, Contests, New Products and much more!

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Is there any change in your QTH? Check this issue — is your name and address correct as listed?

If there is a correction or change to be made send in your official QSL card with the new information. Please print your name as it appears on your FCC license.

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Help keep your CALLBOOK up-to-date!

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Call letters \_\_\_\_\_ License Class \_\_\_\_\_ Name \_\_\_\_\_  
 \_\_\_\_\_ Address \_\_\_\_\_  
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**MAIL TO .... RADIO AMATEUR CALLBOOK, Inc.**  
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# TELEGRAPHERS' ABBREVIATIONS IN CURRENT USE

— denotes short space, as in American Morse o, e, c, t, &, eS.  
— denotes letters sent together, as in ar, sent .

aa.....	all after
ab.....	all before
abl.....	able
abt.....	about
ads,adr.....	address
adv.....	advise
af.....	Africa
aftmn.....	afternoon
agn.....	again
ahd.....	ahead
afng.....	along
am.....	amplitude modulation
ani.....	any
anr.....	another
ant.....	antenna
app.....	appreciate
ar.....	end of message
as,as m.....	wait, wait a minute
au.....	fractions follow
aw.....	auf wiedersehn (Ger), see you later
- B -	
b.....	be
b4.....	before
balun.....	balanced-to-unbalanced
bc,bcl.....	broadcast, broadcast listener
bcnu.....	be seeing you
bd.....	buenos dias (Sp), bad
bda.....	birthday
bde,bo,bth.....	both, as in "u5 bee", up both (Morse)
bfo.....	beat frequency oscillator
bjr.....	bon jour (Fr)
bk,bkg.....	back,break,black,book,breaking
bkr.....	breaker,circuit-breaker
bn.....	been,brown,between,buenas noches (Sp)
bq.....	answer to rq (request)
brg,brng.....	bearing, heading
bsr.....	bon soir (Fr)
btr.....	better
buk.....	book
- C -	
c.....	yes
cd.....	card,could
cd,cud,cndt.....	could,couldn't
cfm,cfmg.....	confirm,confirming
ck.....	check
ckt,cct.....	circuit
cl,clg.....	call,calling,closed
clbk.....	callbook
clix.....	clicks
clr.....	clear
cndx,condx,cdx.....	conditions
cnt,cnti,cnty.....	count, county
cnvn.....	convention
coz,cos,cuz,becuz.....	because
cop.....	copy
cd.....	general call to all stations
cs.....	call sign,call letters
cua,cuagn.....	see you again
cui.....	see you later
cum,cm,cmg.....	come,coming
cupla.....	a couple of
cw.....	continuous wave>manual keying
- D -	
da.....	day
dbl.....	double
dcn.....	direction
dct.....	direct
de.....	from
df.....	direction finder
dif,diff.....	difference
dfr,dld.....	dealer,deliver,delivered
dn,d.....	down (in frequency)
dnt,dmi.....	do not, don't mention it
dpe.....	dope,information
dr.....	dear
ds.....	thanks,danke schon (Ger)
dsnt.....	does not
dsw.....	goodbye,do svidaniya (Russian)
dunno.....	don't know
dx.....	distance, or rare station
dxpdx.....	dx expedition
- E -	
em.....	old man
eh.....	?
el,els.....	antenna element(s)
em.....	them
eni,enibdi,eniwh.....	any,anybody,anyhow
ere.....	here
es,es.....	and (from Morse "&", sent ....)
eta.....	estimated time of arrival
etd.....	estimated time of departure
eu.....	Europe
- F -	
fb,vfb.....	fine business,good (enthusiastic approval)
fd.....	field day,feed,food
fer.....	for
fiver.....	QSA-5
fld.....	field,filed
flr.....	floor
fm,frm.....	from,frequency modulation
fnd.....	friend,find,found
fni.....	funny
foxes.....	teletypewriter test tapes
freq,fq.....	frequency
fwd.....	forward
fyi.....	for your information
- G -	
ga.....	good afternoon,go ahead
gb.....	good bye
gd.....	good day, good
ges,gess.....	guess
gg.....	going
gl.....	good luck

- G - (Cont.)

gld.....	glad
gn,gng.....	gone,green,going
gnd.....	ground
gotta.....	got to,have to,must
gp.....	ground plane,group (word)
grs.....	groups (as in msg code groups)
gud.....	good
gtgs.....	greetings
gv,gvg.....	give,giving
- H -	
hd,hrd.....	had,hard,heard
hdg.....	heading,antenna azimuth
hed.....	he would
hi.....	high, laughter, (sometimes !)
hlo.....	hello
hiv.....	hasta la vista (Sp),see you later
hpe,hpg.....	hope,hoping
hpi.....	happy
hpn,wa hpn.....	happen,what happened
hq,hqtrs.....	headquarters
hr,hrg,hrs.....	here,hear,hour,hearing,here is, hours
hv,hvnt,hvg.....	have,haven't, having
hvi.....	heavy
hw,hws.....	how? how is?

- I -

i?.....	ready? here goes the tape
id.....	I would
ie.....	clear? (response: i-go, e-wait)
im.....	I'm,him,intermodulation
imf.....	?
info.....	information
irpt.....	I repeat

- K -

k.....	go ahead,end of transmission
ka.....	beginning of transmission (formal)
klix.....	clicks
klvb.....	que (ke) le vaya bien (Sp)
"That it goes well with you"	
kn.....	go ahead, but only the station(s) called,
I will answer no other calls,known	
knw.....	know

- L -

lkg.....	looking
ll.....	landline,telephone or telegraph
lng.....	long
lotsa.....	lots of
lp.....	long path (long way around earth)
lsn.....	listen
ltr.....	letter,later
lv,lvg.....	leave,leaving
lw.....	long wave,"lone wolf" (independent DXer)

- M -

mag,rag.....	magazine
mci,mci bcp.....	merci, merci beaucoup (Fr), thanks
mgr.....	manager
mi.....	my
mil,mill,ma.....	milliamperes,typewriter
min.....	minute,minimum
mk.....	mark (opposite of space)
ml,mlg.....	mail,mailing
mng.....	meaning,meaning
mni.....	many
mmi.....	manual
mo.....	moment
msg.....	message

- N -

n.....	no
nd.....	nothing doing
ng.....	no good
nil.....	nothing
nir.....	lazy "nil"
nm.....	nothing more,no more
nn.....	noon
no.....	know
nr.....	near,number
nvr.....	never
nw.....	now

- O -

ob,eb.....	old boy
oc.....	old chap
ok,ek.....	all correct
ol.....	old lady
om,em.....	old man
op,opr.....	operator
opn,opg.....	operation,operating
ot.....	old timer

- P -

pa.....	power amplifier
pbl,pbli.....	probable,preamble,probably
pctcs.....	practices
pd.....	period,paid
pdc.....	pure dc,clear note
pkg.....	package,parking
pls.....	please
ppgn.....	propagation
ppl.....	people
prtbl.....	portable
pse,pls,psd.....	please,pleased
psbl,psbli.....	possible,possibly
psn,psosn.....	position
pt,ptd,ptg.....	point,part,pointed,pointing
pwr.....	power

- Q -

qhm.....	tuning from high frequency to middle of band
qlf.....	try sending with left foot awhile
qlm.....	tuning from low frequency to middle of band
qlz.....	operator too lazy
qmh.....	tuning from middle frequency to high frequency
qml.....	tuning from middle frequency to low frequency
qmt.....	try mailing your tlc
qmn.....	man-made electrical noise
qsl.....	mail card confirming qso
qsl.....	send card after receiving mine
qst.....	of interest to all amateurs

- R -

r.....	received
rac.....	rectified ac
rc.....	rag chew
rcd,rcd.....	received
rcr,rcr,rcvr,rx.....	receiver
rd.....	read (copy),red
rdi,rdy.....	ready
rdo.....	radio,radio station
re.....	concerning
reg,regs.....	regular,regulations
rito.....	righto
rm.....	room
rn.....	running
rockbound,rockbnd.....	crystal controlled, no vfo
rpt.....	report,repeat
rq.....	request
rst.....	readability 1-5,strength 1-9,tone 1-9

- S -

sa,sez,sed,sa.....	say,says,said, South America
sae.....	self-addressed envelope
sase.....	self-addressed stamped envelope
sb,ssb.....	single sideband
sgd.....	signed
shd,shud,shudn't.....	should,shouldn't
sig,sigs.....	signal(s),signature
simo.....	simultaneously
sked.....	schedule
sl.....	see you later
sn.....	soon,seen,signal/noise
sp.....	short path (the closer great-circle path)
sri.....	sorry
ss.....	sweepstakes
ssn.....	season,as in "ssns gtgs"
stn.....	station
su.....	I'll see you
sum.....	some
sumbdi.....	somebody
svc.....	service
svl.....	several
sw.....	switch,short wave
sx.....	dollar sign "\$"

- T -

tbl,trbl.....	trouble
tfc.....	traffic,messages
thr.....	there,their
tmw.....	tomorrow
tn.....	tuning,thing
tnk.....	think
tnsmn.....	transmission
tr.....	transit,position,there,transmit/receive
T/R.....	transmit/receive
trix.....	tricks
tt,tts.....	that,that is
tu,tku,tnx,tks.....	thank you, thanks
tv,tvi.....	television,television interference
twx.....	telegram
tx,trans.....	transmitter

- U -

u,up.....	you,upward in frequency
ufb.....	vfb,very fine business (Rus)
uk.....	United Kingdom
ul,ud.....	you will,you would
undld.....	undelivered
unhrd.....	unheard
ur,urs.....	your,yours
ut.....	universal time,GMT,"Zebra" time

- V -

va.....	signing off (same as sk)
vert.....	vertical
vfb.....	very fine business
vfo.....	variable-frequency oscillator
vjo.....	viejio (Sp),old man
vox.....	voice-operated switch
vy,vri.....	very
vxo.....	variable crystal oscillator

- W -

w,wt.....	watt
wa.....	word after
wat,watsa.....	what,what do you say?
wb.....	word before
wd.....	word,would
wde.....	who?
wed.....	we would
wh.....	white
wid.....	with
wilco.....	will comply,will do
wk,wkg.....	week,weak,work, working, QSOing
wri.....	worry
wx,wea.....	weather

- X -

xtl.....	crystal
xtr,xmtr.....	transmitter
xq.....	fill, or repeat of unreceived copy

- Y -

yda.....	yesterday
yl,xyl.....	young lady,married young lady
yr.....	year,your

- Z -

z.....	Greenwich Mean Time, UT, "zebra"
zedder.....	New Zealander
zi.....	zone of the interior (continental USA)
zilch.....	nothing

## NUMBER CODE:

1 - a	6 - 6
2 - u	7 - b
3 - v	8 - d
4 - 4	9 - n
5 - e	0 - t

73.....	best wishes
88.....	love and kisses
99 (rare).....	keep out



# 73

*Amateur Radio*



## ANSWER THESE QUESTIONS AND RECEIVE YOUR JUST REWARD

- Which ham magazine has grown over 25% in the last six months?
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**73 Magazine Peterborough, New Hampshire 03458**

## DX OPERATING CODE

(For W/VE Amateurs)

Some amateur DXers have caused considerable confusion and QRM in their efforts to work DX stations. The points below, if observed by all W/VE amateurs, will help make DX more enjoyable for all.

1. Call DX only after he calls CQ, QRZ? or signs SK, or 'phone equivalents thereof. Make your calls short.
2. Do not call a DX station:
  - a. On the frequency of the station he is calling until you are sure the QSO is over (SK).
  - b. Because you hear someone else calling him.
  - c. When he signs KN, AR or CL.
  - d. Exactly on his frequency.
  - e. After he calls a directional CQ, unless of course you are in the right direction or area.
3. Keep within frequency band limits. Some DX stations can get away with working outside, but you cannot.
4. Observe calling instructions given by DX stations.  
 Example: "15U" means "call 15 kc. up from my frequency".  
 "15D" means down, etc.
5. Give honest reports. Many DX stations depend on W/VE reports for adjustment of station and equipment.
6. Keep your signal clean. Key clicks, ripple, feedback or splatter give you a bad reputation and may get you a citation from FCC.
7. Listen and call the station you want. Calling CQ DX is not the best assurance that the rare DX will reply.
8. When there are several W or VE stations waiting, avoid asking DX to "listen for a friend". Also avoid engaging him in a rag chew against his wishes.

(For Overseas Amateurs)

To all overseas amateur stations:

In their eagerness to work you, many W and VE amateurs resort to practices which cause confusion and QRM. Most of this is good-intentioned but ill-advised; some of it is intentional and selfish. The key to the cessation of unethical DX operating practices is in your hands. We believe that your adoption of certain operating habits will increase your enjoyment of amateur radio and that of amateurs on this side who are eager to work you. We recommend your adoption of the following principles:

1. Do not answer calls on your own frequency.
2. Answer calls from W/VE stations only when their signals are of good quality.
3. Refuse to answer calls from other stations when you are already in contact with someone, and do not acknowledge calls from amateurs who indicate they wish to be "next".
4. Give everybody a break. When many W/VE amateurs are patiently and quietly waiting to work you, avoid complying with requests to "listen for a friend".
5. Tell listeners where to call you by indicating how many kilocycles up (U) or down (D) from your frequency you are listening. Examples: c.w. - "CQ DX CQ DX CQ DX 15U DE AC4YN AC4YN AC4YN 15U K"; 'phone - "Answer 15 kilocycles up from my frequency".
6. Use the ARRL-recommended ending signals, especially KN, to indicate to impatient listeners the status of the QSO. (KN means "Go ahead (specific station), all others keep out".
7. Let it be known that you avoid working amateurs who are constant violators of the above principles.

ARRL Communications Department



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ATLANTA, GA.	264	322	47	24	25	301	343	15	86	269	297	320	7	271	310	251	347	145	306	281	281	347	154	345	331	321	234	48	64	48	278	27	318	296	289	308	48	84
BIRMINGHAM, ALA.	82	326	50	31	40	304	356	26	84	268	299	328	17	270	312	246	5	125	314	287	281	10	142	355	338	0	219	52	67	53	278	37	333	298	290	309	53	83
BISMARCK, N. D.	132	137	92	97	115	209	114	105	124	167	205	133	104	198	273	165	119	132	148	150	233	123	135	109	108	131	151	99	111	102	217	106	134	237	249	282	107	119
BOSTON, MASS.	236	241	291	277	247	278	273	267	226	254	275	275	274	262	293	246	263	220	268	253	273	256	207	278	286	249	237	235	219	233	268	258	262	280	280	295	236	217
BUFFALO, N. Y.	208	217	291	92	206	273	264	237	192	241	269	268	261	252	290	231	243	191	258	237	267	231	184	274	286	225	219	118	160	134	261	199	248	276	276	293	159	174
CHARLESTON, W. VA.	208	223	307	61	24	287	309	359	174	251	282	293	345	260	300	238	293	180	279	251	274	270	174	316	311	245	223	66	108	71	269	31	275	286	282	301	80	143
CHEYENNE, WYO.	108	112	26	76	76	91	81	81	103	140	187	83	79	189	319	143	90	113	101	119	241	95	119	76	62	104	128	81	92	83	219	84	98	268	262	303	87	100
CHICAGO, ILL.	161	175	302	82	78	125	272	93	144	221	266	268	80	242	293	210	151	155	245	208	262	157	156	350	308	173	190	91	116	97	254	101	212	274	272	295	106	131
CLEVELAND, OHIO	197	209	297	80	55	179	277	277	176	240	272	275	310	252	293	228	245	180	261	235	268	226	175	290	296	219	214	95	136	105	262	127	250	278	277	296	124	156
COLUMBIA, S. C.	268	267	317	41	10	354	299	329	356	270	295	311	350	271	308	256	326	189	300	279	282	320	174	331	323	297	246	39	53	37	279	7	305	295	290	307	33	85
DALLAS, TEXAS	81	82	349	57	49	61	325	36	50	80	319	15	45	266	325	157	47	97	15	61	280	55	112	32	11	65	115	60	71	61	277	55	40	308	291	315	63	80
DENVER, COLORADO	103	107	22	73	72	87	6	75	77	99	134	74	74	189	325	138	84	109	91	112	246	90	116	70	55	98	124	78	88	80	224	80	91	283	267	308	83	96
DES MOINES, IOWA	134	144	318	80	78	105	271	84	87	123	197	262	81	231	297	187	105	135	197	171	257	116	141	69	5	133	165	87	104	91	247	92	137	273	270	296	97	115
DETROIT, MICH.	188	200	295	86	79	164	273	263	129	168	233	268	268	248	291	222	224	174	254	227	265	208	171	282	292	206	207	100	133	109	258	128	238	275	274	294	124	151
EL PASO, TEXAS	77	78	14	58	54	64	8	50	56	76	79	8	42	53	345	98	57	86	48	71	285	62	97	46	33	68	92	61	69	62	290	59	57	335	298	327	64	75
HELENA, MONTANA	112	116	85	84	88	100	133	97	93	108	134	141	105	92	162	136	101	115	115	122	203	105	119	94	91	111	127	89	98	92	180	94	109	179	224	283	95	104
HOUSTON, TEXAS	64	60	348	50	40	49	329	25	39	67	338	325	6	34	285	327	34	84	3	26	288	40	103	22	5	46	86	52	60	53	289	45	24	314	297	319	5	68
INDIANAPOLIS, IND.	166	185	308	72	58	110	281	332	62	143	234	276	290	41	250	298	220	157	267	226	267	168	158	338	316	188	199	80	107	85	261	80	251	281	277	298	94	127
JACKSONVILLE, FLA.	327	309	324	33	9	1	308	339	0	8	286	304	323	355	282	314	273	340	314	300	288	338	163	341	332	326	271	29	34	28	287	8	323	303	295	312	23	39
KANSAS CITY, MO.	120	129	332	72	67	90	288	60	73	111	196	278	15	66	236	306	184	82	126	157	262	95	134	50	9	113	157	78	93	81	253	79	97	282	275	302	85	105
LITTLE ROCK, ARK.	97	104	335	59	48	65	307	26	48	92	243	300	352	41	260	315	208	43	114	338	276	55	128	21	356	71	158	62	76	64	271	56	22	297	286	309	67	89
LOS ANGELES, CALIF.	81	82	41	62	61	70	52	62	65	79	88	57	60	62	100	19	96	67	87	67	81	70	94	59	52	76	92	65	71	66	95	67	69	35	319	348	68	78
LOUISVILLE, KY.	166	190	313	66	47	87	287	339	43	137	242	282	301	26	256	302	227	348	156	280	239	271	158	342	322	202	205	71	98	75	266	63	278	285	281	301	82	120
MIAMI, FLORIDA	337	326	329	22	3	355	313	342	356	355	302	310	329	353	291	318	290	342	345	321	315	293	341	342	335	334	298	18	16	15	293	1	330	308	299	315	11	13
MILWAUKEE, WIS.	162	175	297	87	88	132	267	170	107	147	218	261	253	99	239	290	207	157	156	235	204	259	160	157	298	172	188	98	121	103	251	111	203	271	270	293	113	135
MINNEAPOLIS, MINN.	145	154	291	91	96	123	248	125	108	135	193	242	184	105	227	283	186	132	144	189	175	248	137	146	114	148	169	99	116	104	237	110	159	259	261	287	111	127
NASHVILLE, TENN.	140	180	320	59	40	61	295	354	36	114	251	290	318	24	261	307	231	8	142	298	254	275	22	150	353	333	205	63	83	65	271	50	313	291	285	305	68	103
NEW ORLEANS, LA.	50	37	337	46	32	38	318	9	28	60	299	313	347	22	283	321	270	17	86	339	339	288	22	114	7	351	23	46	56	47	287	35	359	308	296	315	47	64
NEW YORK, N. Y.	233	240	296	54	303	251	281	281	280	223	255	278	280	286	262	294	244	269	213	271	253	274	259	202	287	293	251	237	205	229	269	269	266	283	282	297	235	208
NORFOLK, VA.	249	253	306	35	342	291	290	303	319	236	264	286	295	318	268	301	253	294	217	285	267	279	284	198	308	307	269	244	25	16	274	322	284	289	286	302	343	208
PHILADELPHIA, PA.	233	240	298	52	317	255	283	285	289	221	255	279	283	294	263	296	246	273	212	273	255	275	263	199	292	296	252	235	49	197	270	279	269	284	282	298	235	203
PHOENIX, ARIZONA	80	83	29	61	59	69	35	58	62	79	89	40	55	59	108	0	100	64	89	62	80	277	70	97	55	45	74	93	64	72	66	64	66	1	300	334	68	79
PITTSBURGH, PA.	210	221	300	72	18	213	280	286	308	188	246	276	281	310	257	295	235	264	189	268	244	271	246	181	296	299	234	222	85	140	96	265	261	281	279	297	123	165
ST. LOUIS, MO.	134	150	320	70	60	90	287	30	63	119	224	280	319	53	248	303	207	68	137	280	204	267	94	143	20	342	130	179	75	95	79	260	74	284	278	301	84	110
SALT LAKE CITY, UTAH	99	101	50	73	74	86	83	79	78	95	118	98	80	76	152	359	123	84	103	91	104	220	88	109	75	67	95	114	78	86	80	181	80	90	254	315	83	92
SAN FRANCISCO, CALIF.	86	86	54	66	67	75	70	70	70	83	96	75	70	68	109	39	101	73	90	77	88	136	77	96	67	62	81	97	69	76	71	114	71	77	66	1	73	81
SEATTLE, WASHINGTON	103	105	87	81	84	94	111	92	89	100	118	116	97	88	136	96	120	95	105	103	109	165	97	109	90	88	102	114	85	92	87	147	89	100	128	181	90	97
WASHINGTON, D. C.	233	240	302	52	342	263	285	293	307	215	256	281	287	308	263	298	245	280	205	277	257	275	268	192	300	302	254	235	53	163	53	270	305	273	285	283	300	189
WILMINGTON, N. C.	267	267	313	32	355	325	297	318	339	267	270	293	306	335	274	307	258	313	222	296	278	283	305	194	322													



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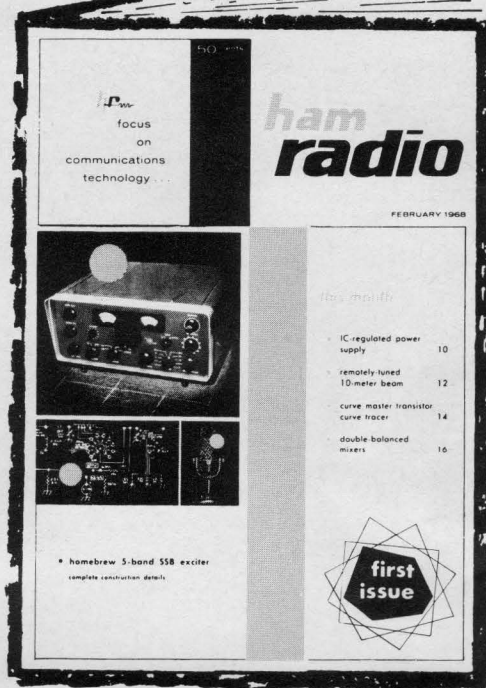
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# WORLD TIME CONVERSION CHART IN HOURS

Greenwich Meridian Time. London, Eng- land.	Central Europe. Ber- lin, Geneva, Stock- holm, Vienna.	Eastern Europe. Ath- ens, Cape Town, Cairo, Moscow	Arabia, Armenia, Ethiopia, Madagas- car.	Mauritius, Iran, Reunion Island.	Central Russia, Bom- bay, India.	Calcutta, Novosi- birsk Russia, Tibet.	Sumatra. Thailand, Laos.	Philippines. Perth, Australia	Central Australia. Tokyo, Japan.	Eastern Australia. Melbourne, Sydney.	New Caledonia. New Zealand.	International Date Line. Fiji Islands.	Norfolk, Alaska. Samoa Islands.	Hawaii. Midway Islands.	Eastern Alaska. Dawson	Pacific Standard Time. Los Angeles, Seattle, Juneau.	Mountain Standard Time. Calgary, Denver, Phoenix.	Central Standard Time. Chicago, Costa Rica.	Eastern Standard Time. Montreal, New York, Peru.	Atlantic Standard Time. Argentina, Nova Scotia.	Greenland. Rio de Janeiro, Brazil.	Azores.	Iceland. Canary Islands.
0000	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM
0100	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night
0200	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM
0300	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM
0400	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM
0500	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM
0600	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM
0700	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM
0800	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM
0900	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM
1000	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM
1100	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM
1200	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM
1300	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon
1400	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM
1500	4PM	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM
1600	5PM	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM
1700	6PM	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM
1800	7PM	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM
1900	8PM	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM
2000	9PM	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM
2100	10PM	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
2200	11PM	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM
2300	Mid Night	1AM	2AM	3AM	4AM	5AM	6AM	7AM	8AM	9AM	10AM	11AM	Noon	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM

With this chart you can convert standard time in any time zone to GMT or tell what time it is in other parts of the world. To correctly use this chart visualize each horizontal line as a complete circle. From your time zone tracing horizontally to the right (Counter Clock- wise) it will be tomorrow when you pass midnight and yesterday when you pass the international date line. To the left (Clockwise) it will be yesterday when you pass midnight and tomorrow when you pass the international date line. There is no change in date when you pass both midnight and the international date line going in one direction. For instance at 8 PM in New York Eastern Standard Time it is 2 AM tomorrow in Berlin, Germany and 11 AM tomorrow in Sydney, Australia. Always trace in the shortest direction from your time zone to find what time it is in any other zone.



# INTERNATIONAL POSTAL RATES

The following postal rates cover QSL cards, first class letters and air mail letters from the United States to Countries outside of the United States and Possessions.

FIRST CLASS RATES are the rate for the first ounce. If the rate indicated is 13¢, add 8¢ for each additional ounce or fraction; if the rate indicated is 6¢ add 6¢ for each additional ounce or fraction.

AIR MAIL RATES are the rate for each half ounce, except where indicated.

QSL CARDS and AEROGRAMMES (air letter sheets) may be sent to any country in the world by air mail for 13¢ (exception: to Canada and Mexico, QSL cards are 8¢ by air mail).

INTERNATIONAL REPLY COUPONS of United States issue may be purchased at United States post offices for 15¢ each. Each coupon is exchangeable at a post office in any country for a stamp or stamps representing the international postage on a single rate surface letter. The column marked "(Air) IRC" indicates the number of international reply coupons required to prepay an air mail letter of the first weight unit from the countries indicated to the United States.

These rates include all revisions up to press time of this issue.

	QSL cards	First class	Air mail	(Air) IRC		QSL cards	First class	Air mail	(Air) IRC		QSL cards	First class	Air mail	(Air) IRC
Aden.....	.08	.13	.25	5	Ghana.....	.08	.13	.25	3	Pakistan.....	.08	.13	.25	2
Afghanistan.....	.08	.13	.25	5	Gibraltar (Great Britain).....	.08	.13	.20	2	Panama.....	.08	.13	.15	2
Aland Is. (Finland).....	.08	.13	.20	2	Gilbert and Ellice Is.....	.08	.13	.25	5	Papua Territory (Australia).....	.08	.13	.25	3
Albania.....	.08	.13	.20	4	Great Britain.....	.08	.13	.20	2	Paraguay.....	.08	.13	.15	3
Algeria.....	.08	.13	.20	2	Greece (incl. Crete).....	.08	.13	.20	2	Persian Gulf Ports.....	.08	.13	.25	4
Andorra.....	.08	.13	.20	2	Greenland (Denmark).....	.08	.13	.20	2	Peru.....	.08	.13	.15	
Angola.....	.08	.13	.25	3	Guadeloupe Is.....	.08	.13	.15	2	Philippines.....	.08	.13	.25	3
Argentina.....	.08	.13	.15	3	Guatemala.....	.08	.13	.15	2	Pitcairn Is. (Great Britain).....	.08	.13	.25	
Ascension Is. (Great Britain).....	.08	.13	.15	3	Guinea, Portuguese.....	.08	.13	.25	2	Poland.....	.08	.13	.20	2
Australia.....	.08	.13	.25	3	Guinea, Republic of.....	.08	.13	.25	2	Portugal.....	.08	.13	.20	2
Austria.....	.08	.13	.20	2	Guyana.....	.08	.13	.15	3					
Azores Is. (Portugal).....	.08	.13	.20	2	Haiti.....	.08	.13	.15	5	Qatar.....	.08	.13	.25	4
					Honduras.....	.08	.13	.15	3	Reunion Is. (France).....	.08	.13	.25	3
Bahama Is. (Great Britain).....	.08	.13	.15	2	Hong Kong.....	.08	.13	.25	5	Rhodesia.....	.08	.13	.25	5
Balearic Is. (Spain).....	.08	.13	.20	2	Hungary.....	.08	.13	.20	3	Rio Muni (Spain).....	.08	.13	.25	3
Barbados Is. (West Indies).....	.08	.13	.15	3						Rumania.....	.08	.13	.20	4
Belgium.....	.08	.13	.20	2	Iceland.....	.08	.13	.20	2	Rwanda.....	.08	.13	.25	2
Bermuda Is.....	.08	.13	.15	2	Ifni (Spain).....	.08	.13	.25	2	Ryukyu Is. (U.S.).....	.08	.13	.25	5
Bhutan.....	.08	.13	.25	4	India.....	.08	.13	.25	4					
Bolivia.....	.08	.13	.15	2	Indonesia.....	.08	.13	.25		Sabah (Malaysia).....	.08	.13	.25	5
Botswana.....	.08	.13	.25	5	Iran.....	.08	.13	.25	4	St. Helena Is. (Great Britain).....	.08	.13	.25	3
Brazil.....	.08	.13	.15	4	Iraq.....	.08	.13	.25	3	St. Pierre and Miquelon Is. (Fr.).....	.08	.13	.15	2
British Honduras.....	.08	.13	.15	2	Ireland (Eire).....	.08	.13	.20	3	Samoa, Western (Great Britain).....	.08	.13	.25	4
Brunei.....	.08	.13	.25	7	Israel.....	.08	.13	.25	3	Sarawak (Malaysia).....	.08	.13	.25	5
Bulgaria.....	.08	.13	.20	3	Italy.....	.08	.13	.20	2	Saudi Arabia.....	.08	.13	.25	3
Burma.....	.08	.13	.25	4	Ivory Coast.....	.08	.13	.25	2	Senegal.....	.08	.13	.25	2
Burundi.....	.08	.13	.25	3						Seychelles Is. (Great Britain).....	.08	.13	.25	4
					Jamaica.....	.08	.13	.15	2	Sierra Leone.....	.08	.13	.25	4
Cambodia.....	.08	.13	.25	3	Japan.....	.08	.13	.25	2	Solomon Is. (Great Britain).....	.08	.13	.25	5
Cameroun.....	.08	.13	.25	2	Jordan.....	.08	.13	.25	3	Somali Republic.....	.08	.13	.25	
Canada.....	.05	.06	.10*	2						South Africa.....	.08	.13	.25	5
Canary Is. (Spain).....	.08	.13	.20	2	Kenya.....	.08	.13	.25	5	South-West Africa.....	.08	.13	.25	5
Cape Verde Is. (Portugal).....	.08	.13	.25	3	Korea.....	.08	.13	.25	3	Spain.....	.08	.13	.20	2
Cayman Is. (West Indies).....	.08	.13	.15	3	Kuwait.....	.08	.13	.25	4	Spanish Sahara.....	.08	.13	.25	5
Central African Republic.....	.08	.13	.25	2						Sudan.....	.08	.13	.25	3
Ceylon.....	.08	.13	.25	5	Laos.....	.08	.13	.25	3	Surinam.....	.08	.13	.15	1
Chad.....	.08	.13	.25	2	Lebanon.....	.08	.13	.25	3	Sweden.....	.08	.13	.20	
Chile.....	.08	.13	.15		Leeward Is. (West Indies).....	.08	.13	.15	2	Switzerland.....	.08	.13	.20	2
China (Taiwan).....	.08	.13	.25	3	Lesotho.....	.08	.13	.25	5	Syria.....	.08	.13	.25	3
China (Mainland).....	.08	.13	.25	3	Liberia.....	.08	.13	.25	5					
Colombia.....	.08	.13	.15	4	Libya.....	.08	.13	.20	2	Tanzania.....	.08	.13	.25	5
Comoro Is. (France).....	.08	.13	.25	3	Liechtenstein.....	.08	.13	.20	2	Tasmania (Australia).....	.08	.13	.25	3
Congo (Brazzaville).....	.08	.13	.25	2	Luxembourg.....	.08	.13	.20	2	Thailand.....	.08	.13	.25	3
Congo (Kinshasa).....	.08	.13	.25	2						Timor (Portugal).....	.08	.13	.25	4
Cook Is. (New Zealand).....	.08	.13	.25	3	Macao (Portugal).....	.08	.13	.25	3	Togo.....	.08	.13	.25	2
Corsica (France).....	.08	.13	.20	2	Madeira Is. (Portugal).....	.08	.13	.20	2	Tonga Is. (Great Britain).....	.08	.13	.25	3
Costa Rica.....	.08	.13	.15	2	Malagasy Republic.....	.08	.13	.25	3	Trinidad and Tobago Is. (Britain).....	.08	.13	.15	3
Cuba.....	.08	.13	.15	4	Malawi.....	.08	.13	.25	6	Tristan de Cunha & Gough Is.....	.08	.13	.25	5
Cyprus.....	.08	.13	.25	4	Malaysia.....	.08	.13	.25	5	Tunisia.....	.08	.13	.20	2
Czechoslovakia.....	.08	.13	.20	2	Maldives Is.....	.08	.13	.25	5	Turkey.....	.08	.13	.20	3
					Mali Republic.....	.08	.13	.25	3	Turks & Caicos Is. (Great Britain).....	.08	.13	.15	2
Dahomey.....	.08	.13	.25	2	Malta (Great Britain).....	.08	.13	.20	3					
Denmark.....	.08	.13	.20	2	Martinique (France).....	.08	.13	.15	2	Uganda.....	.08	.13	.25	5
Dominican Republic.....	.08	.13	.15	2	Mauritania.....	.08	.13	.25	2	United States of America -				
					Mauritius (Great Britain).....	.08	.13	.25	3	Domestic rates only.....	.05	.06	.10*	
Ecuador.....	.08	.13	.15	3	Mexico.....	.05	.06	.10*	2	U. S. S. R.....	.08	.13	.25	
Egypt (United Arab Republic).....	.08	.13	.20	2	Morocco.....	.08	.13	.20	2	Upper Volta.....	.08	.13	.25	2
El Salvador.....	.08	.13	.15	2	Mozambique.....	.08	.13	.25	3	Uruguay.....	.08	.13	.15	5
Ethiopia.....	.08	.13	.25	3	Muscat and Oman.....	.08	.13	.25	4					
										Vatican City.....	.08	.13	.20	2
Faeroe Is. (Denmark).....	.08	.13	.20	2	Nauru Is.....	.08	.13	.25	3	Venezuela.....	.08	.13	.15	2
Falkland Is. (Great Britain).....	.08	.13	.20	3	Nepal.....	.08	.13	.25	5	Vietnam.....	.08	.13	.25	2
Fiji Is. (Great Britain).....	.08	.13	.25	4	Netherlands.....	.08	.13	.20	2					
Finland.....	.08	.13	.20	2	Netherlands Antilles.....	.08	.13	.15	1	West Irian (Indonesia).....	.08	.13	.25	
France.....	.08	.13	.20	2	New Caledonia (France).....	.08	.13	.25	2	Windward Is. (West Indies).....	.08	.13	.15	2
French Guiana.....	.08	.13	.15	2	New Guinea, N.E. (Australia).....	.08	.13	.25	3					
French Polynesia Is.....	.08	.13	.25	2	New Hebrides Is.....	.08	.13	.25	3	Yemen.....	.08	.13	.25	
French Somaliland.....	.08	.13	.25	2	New Zealand.....	.08	.13	.25	3	Yugoslavia.....	.08	.13	.20	3
					Nicaragua.....	.08	.13	.15	4					
Gabon.....	.08	.13	.25	2	Niger.....	.08	.13	.25	2	Zambia.....	.08	.13	.25	5
Gambia.....	.08	.13	.25	4	Nigeria.....	.08	.13	.25	3	Zanzibar.....	.08	.13	.25	5
Germany, Western Zone.....	.08	.13	.20	2	Northern Ireland.....	.08	.13	.20	3					
Germany, Eastern Zone.....	.08	.13	.20	2	Norway.....	.08	.13	.20	2					

\* Rate per ounce or fraction



# CENSUS OF AMATEUR RADIO LICENSES OF THE WORLD \*

Prefix	Country	Number of radio amateur licenses	Prefix	Country	Number of radio amateur licenses	Prefix	Country	Number of radio amateur licenses
AC3	Sikkim.....	1	KC4AA, US	Antarctica.....	13	VR2	Fiji Is.....	21
AC4	Tibet.....	2	KC6	Caroline Is.....	19	VR3	Line Is.....	2
AC5	Bhutan.....	2	KG4	Guantanamo Bay, Cuba.....	19	VR4	Solomon Is.....	6
AP	Pakistan.....	49	KG6	Mariana Is.....	99	VR6	Pitcairn Is.....	1
			KG6I	Volcano Is.....	4	VS5	Brunei.....	4
BV	Taiwan (Formosa).....	1	KH6	Hawaii.....	1,517	VS6	Hong Kong.....	35
			KJ6	Johnston Is.....	13	VS9	Aden, Kaman, Maldives, Socotra Is.....	47
CE	Chile.....	1,978	KL7	Alaska.....	1,306	VU	India.....	436
CE9	South Shetland Is, Graham Land.....	25	KM6	Midway Is.....	12			
CE0A	Easter Is.....	6	KP4	Puerto Rico.....	957	W, K	United States of America (See K, W).....	
CE0Z	Juan Fernandez Is.....	10	KP6	Jarvis & Palmyra Is.....	3			
CM, CO	Cuba.....	399	KR6, 8	Ryukyu Is. (Okinawa).....	211	XE, XF	Mexico.....	2,555
CN	Morocco.....	135	KS4	Swan Is.....	8	XE1 -	1,249	
CP	Bolivia.....	239	KS6	U. S. Samoa.....	34	XE2 -	1,182	
CR3	Portuguese Guinea.....	3	KV4	Virgin Is.....	69	XE3 -	113	
CR4	Cape Verde Is.....	16	KW6	Wake Is.....	34	XE6 -	1	
CR5	Sao Tome & Principe Is.....	2	KX6	Marshall Is.....	56	XE0 -	10	
CR6	Angola.....	195	KZ5	Canal Zone.....	212	XT2	Upper Volta.....	3
CR7	Mozambique.....	171				XW8	Laos.....	8
CR8	Timor Is.....	5	LA	Norway.....	2,166	XZ	Burma.....	31
CR9	Macao.....	6	LU	Argentina.....	11,872			
CT1	Portugal.....	258	LX	Luxembourg.....	73	YA	Afghanistan.....	7
CT2	Azores Is.....	8	LZ	Bulgaria.....	395	YJ	New Hebrides.....	13
CT3	Madeira Is.....	14				YK	Syria.....	10
CX	Uruguay.....	2,238	M1	San Marino.....	4	YN	Nicaragua.....	249
			MP4	Bahrein & Das Is, Muscat & Oman, Qatar, Trucial States.....	208	YO	Rumania.....	25
DC, DJ, DK, DL	West German Federal Republic.....	12,788				YS	El Salvador.....	197
DM	East German Democratic Republic.....	1,488				YU	Yugoslavia.....	1,813
DU	Philippines.....	143				YV	Venezuela.....	3,089
			OA	Peru.....	1,037			
EA	Spain.....	1,047	OD5	Lebanon.....	68	ZB2	Gibraltar.....	17
EA6	Balearic Is.....	17	OE	Austria.....	960	ZC4	Cyprus.....	21
EA8	Canary Is.....	112	OH	Finland.....	2,044	ZD3	Gambia.....	7
EA9	Spanish Sahara, Ifni, Ceuta y Melilla.....	18	OH0	Aland Is.....	16	ZD5	Swaziland.....	10
EA0	Rio Muni.....	1	OK, OL	Czechoslovakia.....	129	ZD7	Saint Helena.....	4
EI	Ireland.....	273	ON	Belgium.....	1,113	ZD8	Ascension Is.....	14
EL, 5L	Liberia.....	81	OX	Greenland.....	40	ZD9	Tristan da Cunha & Gough Is.....	2
EP	Iran.....	24	OY	Faeroe Is.....	45	ZE	Rhodesia.....	171
ET3	Ethiopia.....	22	OZ	Denmark.....	2,826	ZF1	Cayman Is.....	11
			PA, PE, PI	Netherlands.....	1,868	ZK1	Cook Is.....	10
F	France.....	3,809	PJ	Netherlands Antilles - PJ(A), Aruba.....	24	ZK2	Niue Is.....	1
FB8	Amsterdam, St. Paul, Crozet, Kerguelen, Tromelin Is.....	4		PJ(B), Bonaire.....	3	ZL	New Zealand.....	3,952
FG7	Guadeloupe Is.....	29		PJ(C), Curacao.....	29	ZP	Paraguay.....	228
FH8	Comoro.....	2		PJ(M), Saint Maarten.....	5	ZS	South Africa.....	2,518
FK8	New Caledonia.....	23		PJ(S), Saba Is.....	1	ZS3	South-West Africa.....	56
FL8	French Somaliland.....	6	PX1	Andorra.....	9	ZS9	Botswana.....	15
FM7	Martinique.....	19	PY	Brazil.....	9,336			
F08	French Polynesia.....	29	PY7	Fernando de Noronha Is.....	4	3A	Monaco.....	17
FP8	St. Pierre & Miquelon Is.....	5	PY0	Trindade & Martim Vaz Is.....	5	3V8	Tunisia.....	1
FR7	Reunion Is.....	14	PZ	Surinam.....	40			
FS7	Saint Martin.....	1	SL, SM	Sweden.....	3,728	4S7	Ceylon.....	55
FU8	New Hebrides.....	4	SP	Poland.....	2,287	4U	United Nations, Geneva.....	2
FW8	Wallis & Futuna Is.....	3	SU	Egypt.....	7	4W1	Yemen.....	8
FY	French Guiana.....	11	SV	Greece, Crete.....	95	4X4, 4Z4	Israel.....	540
G	England.....	15,599	TF	Iceland.....	45	5A	Libya.....	50
GC	Channel Is.....	70	TG	Guatemala.....	181	5H3	Tanzania.....	15
GD	Isle of Man.....	42	TI	Costa Rica.....	466	5N2	Nigeria.....	14
GI	Northern Ireland.....	298	TI9	Cocos Is.....	3	5R8	Malagasy Republic.....	13
GM	Scotland.....	1,123	TJ	Cameroon.....	18	5T5	Mauritania.....	3
GW	Wales.....	651	TL8	Central African Republic.....	3	5U7	Niger.....	6
			TN8	Republic of Congo (Brazzaville).....	9	5V	Togo.....	9
HA, HG	Hungary.....	464	TR8	Gabon.....	6	5W1	Western Samoa.....	5
HB	Switzerland.....	683	TT8	Chad.....	8	5X5	Uganda.....	4
HB0	Liechtenstein.....	2	TU2	Ivory Coast.....	32	5Z4	Kenya.....	43
HC	Ecuador.....	347	TY	Dahomey.....	4			
HC8	Galapagos Is.....	3				60	Somali Republic.....	6
HH	Haiti.....	39	VE	Canada.....	12,407	6W8	Senegal.....	28
HI	Dominican Republic.....	315		VE1 -	1,152	6Y5	Jamaica.....	60
HK	Colombia.....	1,553		VE2 -	2,235			
HK0	San Andres & Providencia Is.....	15		VE3 -	4,824	7G1	Republic of Guinea.....	2
HM, HL	Korea.....	143		VE4 -	549	7P8, ZS8	Lesotho.....	6
HP	Panama.....	143		VE5 -	563	7Q7	Malawi.....	16
HR	Honduras.....	152		VE6 -	1,108	7X	Algeria.....	23
HS	Thailand.....	26		VE7 -	1,828	7Z, HZ	Saudi Arabia.....	2
HV	Vatican City.....	2		VE8 -	129			
HZ	Saudi Arabia.....	5		VE0 -	19	8J	Antarctica.....	1
			VK	Australia.....	5,586	8P6	Barbados Is.....	62
I	Italy.....	3,161	VK0	Heard & Macquarie Is, Antarctica.....	4	8R	Guyana.....	8
IS	Sardinia.....	49	V01	Newfoundland.....	235			
IT	Sicily.....	131	V02	Labrador.....	30	9G1	Ghana.....	51
			VP1	British Honduras.....	31	9H1	Malta.....	38
JA, JH	Japan.....	11,231	VP2	Windward-Leeward Is.....	130	9I, 9J	Zambia.....	57
JT1	Mongolia.....	3	VP5	Turks & Caicos Is.....	11	9K2	Kuwait.....	27
JW	Svalbard Is.....	5	VP7	Bahama Is.....	45	9L1	Sierra Leone.....	10
JX	Jan Mayen Is.....	5	VP8	Falkland, South Georgia, South Orkney, South Sandwich, South Shetland Is.....	33	9M2	Federation of Malaysia.....	78
				Bermuda Is.....	44	9M6	Sabah.....	10
K, W	United States of America (48 states).....	290,429	VP9			9M8	Sarawak.....	19
KA	U. S. Personnel in Japan.....	84	VQ1			9N1	Nepal.....	2
KB6	Baker, Canton, Enderbury, Howland & Phoenix Is.....	12	VQ8	Chagos, Mauritius & Rodriguez Is.....	30	9Q5	Republic of the Congo (Kinshasa).....	226
			VQ9	Seychelles Is.....	6	9V1	Burundi.....	14
			VR1	British Phoenix, Eilice, Gilbert & Ocean Is.....	1	9X5	Singapore.....	61
						9Y4	Rwanda.....	49
							Trinidad & Tobago Is.....	49

\* From the Summer 1968 Radio Amateur Callbooks.

Absence of prefix and country indicates either that no licenses have been issued or have not been obtainable from official sources.



## CENSUS OF AMATEUR RADIO LICENSES\* in the U.S.A. by classes, within states and call areas

Call Area	State	Novice	Tech- nician	Con- ditional	General	Advanced	Extra	Club	Military	Multiple stations	State totals	YL's (Included in state totals)
#1	Conn.	139	794	911	1,990	655	130	87	11	66	4,783	146
	Maine	51	113	684	418	256	57	16	16	29	1,641	61
	Mass.	312	3,480	692	4,756	1,577	283	131	44	149	11,424	417
	N.H.	45	420	199	603	218	37	21	10	48	1,601	77
	R.I.	31	552	115	655	191	40	27	6	21	1,637	66
	Vt.	26	70	259	166	84	14	10	5	25	659	38
		<u>604</u>	<u>5,429</u>	<u>2,860</u>	<u>8,588</u>	<u>2,981</u>	<u>561</u>	<u>292</u>	<u>92</u>	<u>338</u>	<u>21,745</u>	<u>805</u>
#2	N.J.	568	3,770	445	5,871	1,969	377	176	25	95	13,296	328
	N.Y.	<u>1,028</u>	<u>6,980</u>	<u>1,024</u>	<u>11,269</u>	<u>3,107</u>	<u>617</u>	<u>365</u>	<u>74</u>	<u>195</u>	<u>24,659</u>	<u>681</u>
		<u>1,596</u>	<u>10,750</u>	<u>1,469</u>	<u>17,140</u>	<u>5,076</u>	<u>994</u>	<u>541</u>	<u>99</u>	<u>290</u>	<u>37,955</u>	<u>1,009</u>
#3	Del.	22	128	45	332	75	14	9	4	11	640	15
	Md.	192	974	330	2,561	882	171	64	28	58	5,260	118
	Pa.	627	4,272	995	6,970	1,857	326	220	51	137	15,455	444
	D.C.	26	107	41	303	137	28	20	13	25	700	17
		<u>867</u>	<u>5,481</u>	<u>1,411</u>	<u>10,166</u>	<u>2,951</u>	<u>539</u>	<u>313</u>	<u>96</u>	<u>231</u>	<u>22,055</u>	<u>594</u>
#4	Ala.	106	751	953	1,455	381	65	26	22	29	3,788	137
	Fla.	314	1,721	2,151	4,002	1,738	275	98	47	203	10,549	381
	Ga.	155	653	1,028	1,596	500	94	49	34	37	4,146	111
	Ky.	87	474	592	903	313	55	31	16	23	2,494	57
	N.C.	157	641	1,145	1,578	546	75	48	35	60	4,285	131
	S.C.	79	145	1,150	496	159	29	21	30	19	2,128	55
	Tenn.	204	1,213	755	1,690	446	75	42	15	46	4,486	131
	Va.	180	872	968	2,542	899	174	62	61	85	5,843	126
		<u>1,282</u>	<u>6,470</u>	<u>8,742</u>	<u>14,262</u>	<u>4,982</u>	<u>842</u>	<u>377</u>	<u>260</u>	<u>502</u>	<u>37,719</u>	<u>1,129</u>
#5	Ark.	80	298	494	593	207	30	27	14	29	1,772	80
	La.	146	406	852	1,269	386	66	38	27	32	3,222	79
	Miss.	49	138	602	558	198	23	11	12	32	1,623	34
	N.M.	64	147	697	449	265	52	18	19	23	1,734	74
	Okla.	151	724	644	1,259	495	62	44	45	42	3,466	126
	Texas	561	2,717	3,718	5,719	2,076	293	157	116	148	15,505	649
		<u>1,051</u>	<u>4,430</u>	<u>7,007</u>	<u>9,847</u>	<u>3,627</u>	<u>526</u>	<u>295</u>	<u>233</u>	<u>306</u>	<u>27,322</u>	<u>1,042</u>
#6	Calif.	<u>1,454</u>	<u>9,278</u>	<u>4,301</u>	<u>16,842</u>	<u>7,058</u>	<u>962</u>	<u>508</u>	<u>201</u>	<u>502</u>	<u>41,106</u>	<u>1,380</u>
#7	Ariz.	178	699	659	1,215	468	74	35	41	52	3,421	154
	Idaho	54	37	615	172	140	16	10	17	21	1,082	58
	Mont.	56	63	732	165	132	25	15	15	10	1,213	58
	Nev.	18	61	397	173	111	12	8	14	31	825	34
	Oreg.	249	624	991	1,763	626	71	66	39	41	4,470	215
	Utah	140	272	205	568	167	29	16	25	17	1,439	42
	Wash.	303	1,159	1,502	2,942	1,027	148	73	53	66	7,273	328
	Wyo.	38	29	268	111	60	7	11	4	7	535	23
		<u>1,036</u>	<u>2,944</u>	<u>5,369</u>	<u>7,109</u>	<u>2,731</u>	<u>382</u>	<u>234</u>	<u>208</u>	<u>245</u>	<u>20,258</u>	<u>912</u>
#8	Mich.	584	3,087	1,199	4,656	1,179	136	139	37	105	11,122	365
	Ohio	745	5,978	732	6,572	1,897	212	214	47	126	16,523	580
	W.Va.	109	451	229	803	169	30	22	11	27	1,851	42
		<u>1,438</u>	<u>9,516</u>	<u>2,160</u>	<u>12,031</u>	<u>3,245</u>	<u>378</u>	<u>375</u>	<u>95</u>	<u>258</u>	<u>29,496</u>	<u>987</u>
#9	Ill.	727	3,799	2,027	6,545	1,902	247	222	41	161	15,671	505
	Ind.	265	2,262	622	2,620	743	88	122	22	69	6,813	260
	Wisc.	252	879	1,090	1,798	678	67	86	30	53	4,933	123
		<u>1,244</u>	<u>6,940</u>	<u>3,739</u>	<u>10,963</u>	<u>3,323</u>	<u>402</u>	<u>430</u>	<u>93</u>	<u>283</u>	<u>27,417</u>	<u>888</u>
#10	Colo.	159	496	779	1,339	516	87	42	31	41	3,490	128
	Iowa	217	665	689	1,852	586	70	53	18	41	4,191	134
	Kans.	185	368	1,123	1,254	462	80	45	49	27	3,593	149
	Minn.	265	557	986	1,934	640	99	63	19	34	4,597	123
	Mo.	218	1,160	976	2,318	781	120	80	25	46	5,724	193
	Nebr.	117	317	567	828	277	39	32	18	12	2,207	81
	N.D.	37	15	490	81	76	14	11	15	11	750	31
	S.D.	50	54	295	268	94	9	12	10	12	804	40
		<u>1,248</u>	<u>3,632</u>	<u>5,905</u>	<u>9,874</u>	<u>3,432</u>	<u>518</u>	<u>338</u>	<u>185</u>	<u>224</u>	<u>25,356</u>	<u>879</u>
Grand total, 48 states and D.C. only		<u>11,820</u>	<u>64,870</u>	<u>42,963</u>	<u>116,822</u>	<u>39,406</u>	<u>6,104</u>	<u>3,703</u>	<u>1,562</u>	<u>3,179</u>	<u>290,429</u>	<u>9,625</u>

\* From the Summer 1968 Radio Amateur Callbook.

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# THE GEOGRAPHICAL CENTER OF THE UNITED STATES

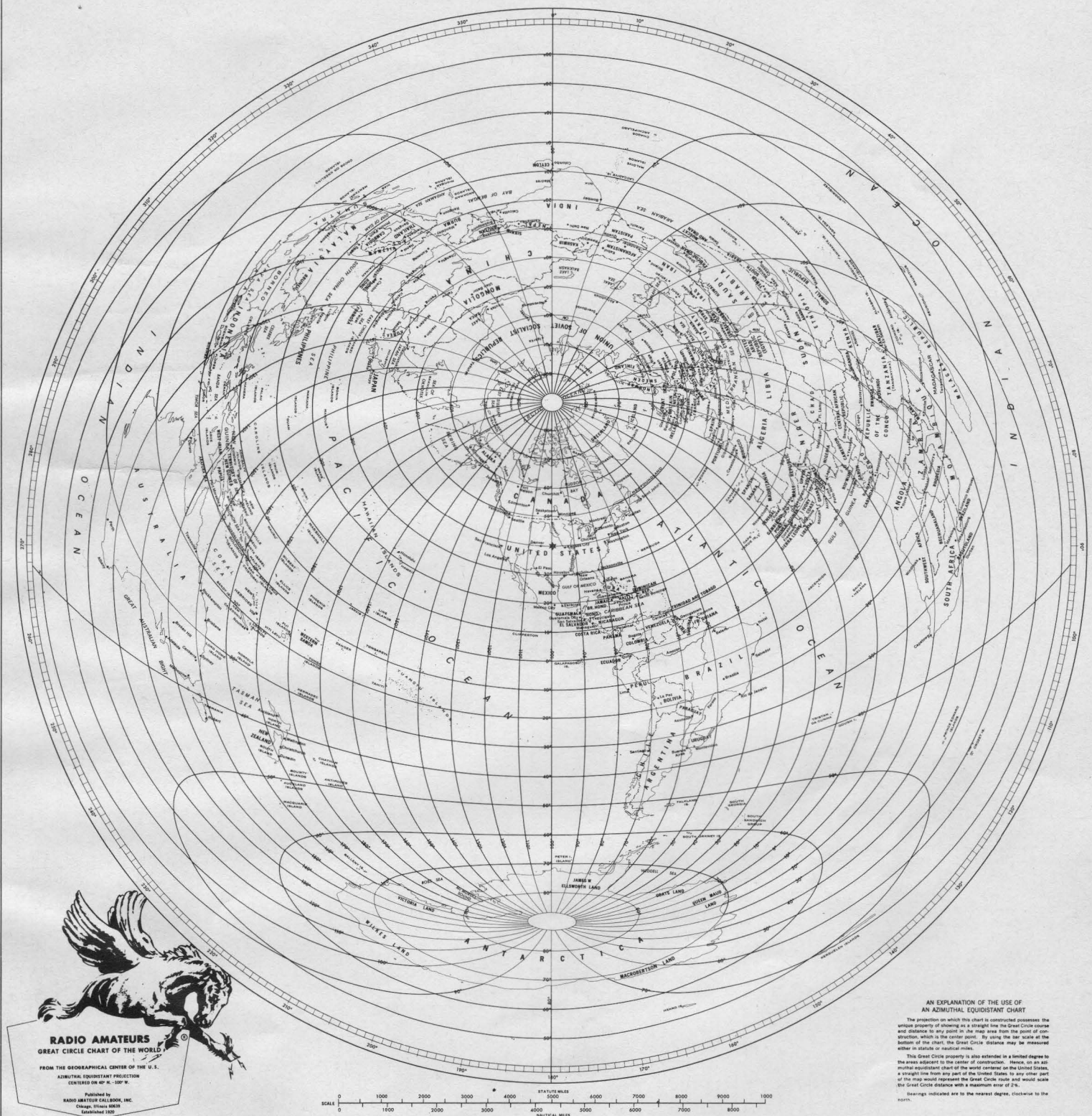
The table below shows the great circle bearing in degrees from the point indicated above to countries throughout the world having licensed radio amateurs. Where cities are shown the bearing to the nearest degree is given. These bearings were compiled from information supplied by the U. S. Coast and Geodetic Survey.

PREFIX	COUNTRY	BEARING	PREFIX	COUNTRY	BEARING	PREFIX	COUNTRY	BEARING
AC3	SIKKIM	353	KS6	U S SAMOA	248	VQ9	SEYCHELLES IS.	40
AC4	TIBET, LHASA	351	KV4	VIRGIN IS.	117	VR1	GILBERT, ELLICE & OCEAN IS.	270
AC5	BHUTAN	351	KW6	WAKE IS.	288	VR2	FIJI IS.	252
AP	PAKISTAN, KARACHI	14	KX6	MARSHALL IS.	280	VR3	FANNING & LINE IS.	253
BV	TAIWAN, TAIPEI	323	KZ5	CANAL ZONE	145	VR4	SOLOMON IS.	270
BY	CHINA, CHUNGKING	337	LA	NORWAY, OSLO	32	VR5	TONGA IS.	245
	PEKING	334		SVALBARD IS.	13	VR6	PITCAIRN IS.	210
	SHANGHAI	326		JAN MAYEN IS.	24	VS5	BRUNEI	317
CE	CHILE, SANTIAGO	156	LU	ARGENTINA, BUENOS AIRES	148	VS6	HONG KONG	328
CE0A	EASTER IS.	190	LX	LUXEMBOURG	42	VS9	ADEN, ADEN	41
CE0Z	JUAN FERNANDEZ IS.	163	LZ	BULGARIA, SOFIA	39	VU	INDIA, BOMBAY	9
GM,CO	CUBA, HAVANA	136	MP4	MUSCAT & OMAN, MASQAT	23		CALCUTTA	353
GN	MOROCCO, CASABLANCA	62	OA	PERU, LIMA	154		NEW DELHI	4
CP	BOLIVIA, LA PAZ	147	OD5	LEBANON, BEIRUT	37	VU4	LACCADIVE IS.	10
CR3	PORTUGUESE GUINEA	85	OE	AUSTRIA, VIENNA	39	VU5	ANDAMAN & NICOBAR IS.	346
CR4	CAPE VERDE IS.	87	OH	FINLAND, HELSINKI	26	XE,XF	MEXICO, MEXICO CITY	182
CR6	ANGOLA, NOVA LISBOA	84	OH0	ALAND IS.	28	XE4	REVILLAGIGEDO IS.	211
CR7	MOZAMBIQUE, LOURENCO MARQUES	86	OK,OL	CZECHOSLOVAKIA, PRAGUE	38	XW8	LAOS	338
	MOZAMBIQUE	67	ON	BELGIUM, BRUSSELS	42	XZ	BURMA, RANGOON	343
CR8	GOA	9	OX	GREENLAND, GODTHAAB	32	YA	AFGHANISTAN, KANDAHAR	14
CR8	TIMOR IS.	296	OY	FAERUES IS.	35	YI	IRAQ, BAGHDAD	31
CR9	MACAO	328	OZ	DENMARK, COPENHAGEN	34	YJ	NEW HEBRIDES, VILLA	261
CT1	PORTUGAL, LISBON	59	PA,PE,PI	NETHERLANDS, AMSTERDAM	40	YK	SYRIA	34
CT2	AZORES IS.	67	PJ	NETHERLANDS ANTILLES	128	YN	NICARAGUA, MANAGUA	155
CT3	MADERA IS.	68	PJ2M	SINT MAARTEN	115	YO	RUMANIA, BUCHAREST	36
CX	URUGUAY, MONTEVIDEO	146	PX1	ANDORRA	50	YS	EL SALVADOR, SAN SALVADOR	160
DC,DJ,DK	WEST GERMAN FEDERAL REP, BONN	41	PY	BRAZIL, BRASILIA	129	YU	YUGOSLAVIA, BELGRADE	39
DM	E. GERMAN DEMOCRATIC REP, BERLIN	37		RIO DE JANEIRO	130	YV	VENEZUELA, CARACAS	127
DU	PHILIPPINES, MANILA	317		NATAL	112	ZA	ALBANIA, TIRANA	42
EA	SPAIN, MADRID	55	PY0	TRINDADE & MARTIM VAZ IS.	118	ZB2	GIBRALTAR	59
EA6	BALEARIC IS.	53	PZ	SURINAM	119	ZC4	CYPRUS	38
EA8	CANARY IS.	70	SL,SM	SWEDEN, STOCKHOLM	29	ZD3	GAMBIA	85
EA9	SPANISH SAHARA	70	SP	POLAND, WARSAW	34	ZD5	SWAZILAND	88
EA0	RIO MUNI	75	ST	SUDAN, KHARTOUM	50	ZD7	SAINT HELENA	101
EI	IRELAND, DUBLIN	43	SU	EGYPT, CAIRO	42	ZD8	ASCENSION IS.	100
EL,5L	LIBERIA, MONROVIA	87	SV	GREECE, ATHENS	42	ZD9	TRISTAN DA CUNHA & GOUGH IS.	122
EP	IRAN, TEHRAN	24	SV5	DODECANESE IS.	41	ZE	SOUTHERN RHODESIA, SALISBURY	78
ET3	ETHIOPIA, ADDIS ABABA	49	TA,TC	TURKEY, ANKARA	35	ZK1	COOK IS.	235
	ASMARA	45	TF	ICELAND, REYKJAVIK	34	ZK2	NIUE IS.	244
F	FRANCE, PARIS	44	TG	GUATEMALA, GUATEMALA CITY	162	ZL1	NEW ZEALAND, AUCKLAND	238
FB8	AMSTERDAM AND ST. PAUL IS.	58	TI	COSTA RICA	153	ZL2	WELLINGTON	235
	KERGUELEN IS.	143	TJ	CAMEROON, YAOUNDE	74	ZL3	CHRISTCHURCH	233
FC	CORSICA	47	TL8	CENTRAL AFRICAN REP, BANGUI	68	ZL4	DUNEDIN	232
FG7	GUADELOUPE	116	TN8	REPUBLIC OF CONGO, BRAZZAVILLE	78	ZP	PARAGUAY, ASUNCION	142
FH8	COMORO IS.	61	TR8	GABON, LIBREVILLE	78	ZS	SOUTH AFRICA, CAPE TOWN	104
FK8	NEW CALEDONIA, NOUMEA	255	TT8	CHAD, FT. LAMY	65		DURBAN	92
FL8	FRENCH SOMALILAND, DJIBOUTI	43	TU2	IVORY COAST, ABIDJAN	83		JOHANNESBURG	90
FM7	MARTINIQUE	117	TZ	MALI REPUBLIC, BAMAKO	80	ZS2	PRINCE EDWARD & MARION IS.	117
F08	FRENCH POLYNESIA, TAHITI	230	UA1	SOVIET UNION, MOSCOW	23	ZS3	SOUTH-WEST AFRICA, WINDHOEK	93
	CLIPPERTON IS.	201	UA9,0	ASIATIC RUSSIAN S.F.S.R.	346	ZS9	BOTSWANA, MAFEKING	91
FP8	ST. PIERRE & MIQUELON IS.	63	UB5	UKRAINIAN S.S.R.	30	3A	MONACO	47
FR7	REUNION IS.	58	UC2	WHITE RUSSIAN S.S.R.	30	3V8	TUNISIA, TUNIS	50
FS7	SAINT MARTIN IS.	115	UD6	AZERBAIDZHAN S.S.R.	26	3W8	VIETNAM, SAIGON	329
FU8	NEW HEBRIDES, VILA	258	UF6	GEORGIAN S.S.R.	26	4S7	CEYLON, COLOMBO	2
FW8	WALLIS & FUTUNA IS.	252	UG6	ARMENIAN S.S.R.	27	4W1	YEMEN	40
FY7	FRENCH GUIANA, CAYENNE	118	UH8	TURKMEN S.S.R.	18	4X4,4Z4	ISRAEL	38
G	ENGLAND, LONDON	43	UI8	UZBEK S.S.R.	11	5A	LIBYA, TRIPOLI	52
GC	CHANNEL IS.	46	UJ8	TADZHIK S.S.R.	10	5H3	TANZANIA, DAR ES SALAAM	60
GD	ISLE OF MAN	42	UL7	KAZAKH S.S.R.	13	5N2	NIGERIA, LAGOS	77
GI	NORTHERN IRELAND, BELFAST	42	UM8	KIRGHIZ S.S.R.	5	5R8	MALAGASY REPUBLIC, TANANARIVE	64
GM	SCOTLAND, GLASGOW	40	UN1	KARELO-FINNISH S.S.R.	19	5T5	MAURITANIA, NOUAKCHOTT	80
GW	WALES	44	UO5	MOLDAVIAN S.S.R.	33	5U7	NIGER, NIAMEY	73
HA,HG	HUNGARY, BUDAPEST	38	UP	LITHUANIAN S.S.R.	30	5V	TOGO	79
HB	SWITZERLAND, BERN	44	UQ	LATVIAN S.S.R.	29	5W1	WESTERN SAMOA	249
HBO	LIECHTENSTEIN	43	UR	ESTONIAN S.S.R.	27	5X5	UGANDA	60
HC	ECUADOR, QUITO	150	VE1	CANADA, HALIFAX	68	5Z4	KENYA, NAIROBI	58
HC8	GALAPAGOS IS.	166	VE2	MONTREAL	65	60	SOMALI REPUBLIC, MOGADISHU	47
HH	HAITI, PORT-AU-PRINCE	126	VE3	TORONTO	69	6W8	SENEGAL, DAKAR	84
HI	DOMINICAN REP, SANTO DOMINGO	122	VE4	WINNIPEG	5	6Y5	JAMAICA	133
HK	COLOMBIA, BOGOTA	141	VE5	SASKATOON	338	7G1	REPUBLIC OF GUINEA, CONAKRY	86
HKO	SAN ANDRES & PROVIDENCIA IS.	146	VE6	EDMONTON	329	7P8	LESOTHO	94
HM,HL9	KOREA, SEOUL	325	VE7	VANCOUVER	307	7Q7	MALAWI, ZOMBA	72
HP	PANAMA	146	VE8	FORT NELSON	329	7X	ALGERIA, ALGIERS	54
HR	HONDURAS, TEGUCIGALPA	156	VK1	AUSTRALIA, CANBERRA	252	7Z,HZ	SAUDI ARABIA, MECCA	40
HS	THAILAND, BANGKOK	338	VK2	SYDNEY	253	8F1,2,3	JAVA, BATAVIA	319
HV	VATICAN CITY	45	VK3	MELBOURNE	251	8F4	SUMATRA	326
I	ITALY, ROME	45	VK4	BRISBANE	258	8F5	BORNEO	312
	TRIESTE	42	VK5	ADELAIDE	257	8F6	CELEBES & MOLUCCA IS.	307
IS	SARDINIA	49	VK6	PERTH	275	8P6	BARBADOS	117
IT	SICILY	48	VK7	TASMANIA, HOBART	244	8R	GUYANA, GEORGETOWN	121
JA,JH	JAPAN, TOKYO	316	VK8	DARWIN	288	9A1,M1	SAN MARINO	44
JT1	MONGOLIA, ULAN BATOR	343	VK9	NORFOLK IS.	249	9G1	GHANA, ACCRA	80
JY	JORDAN	38	VK0	NEW GUINEA, PAPUA, PORT MORESBY	278	9H1	MALTA	49
JZ0	WEST IRIAN	289		HEARD IS.	161	9I,9J	ZAMBIA, LUSAKA	78
KB6	BAKER IS.	262		MACQUARIE IS.	226	9K2	KUWAIT	30
KC4	NAVASSA IS.	130	VO1	NEWFOUNDLAND, ST JOHNS	61	9L1	SIERRA LEONE, FREETOWN	86
KC6	CAROLINE IS.	294	VO2	LABRADOR, HOPEDALE	45	9M2	FEDERATION OF MALAYSIA	333
KG4	GUANTANAMO BAY, CUBA	128	VP1	BRITISH HONDURAS	155	9M6	SABAH, NORTH BORNEO	315
KG6	MARIANAS IS, GUAM	298	VP2	ANTIGUA	115	9M8	SARAWAK	320
KG6I	VOLCANO IS.	308	VP5	TURKS & CAICOS IS.	120	9N1	NEPAL, KATMANDU	356
KG6S	SAIPAN IS.	298	VP7	BAHAMA IS.	123	9Q5	REP. OF THE CONGO, KINSHASA	78
KH6	HAWAII, HONOLULU	268	VP8	FALKLAND IS.	156		LUBUMBASHI	75
KL7	ALASKA, ANCHORAGE	322		SOUTH GEORGIA IS.	147		KISANGANI	66
	FAIRBANKS	328	VP9	SOUTH ORKNEY IS.	155	9U5	BURUNDI	65
KM6	MIDWAY IS.	286	VQ1	BERMUDA IS.	95	9V1	SINGAPORE	328
KP4	PUERTO RICO	119	VQ8	ZANZIBAR	60	9X5	RWANDA	65
KR6,8	RYUKYU IS, OKINAWA	319		CHAGOS IS.	17	9Y4	TRINIDAD & TOBAGO IS.	121
KS4	SWAN IS.	146		MAURITIUS & RODRIGUEZ IS.	53			



# RADIO AMATEURS GREAT CIRCLE CHART OF THE WORLD

## FROM THE GEOGRAPHICAL CENTER OF THE UNITED STATES



**AN EXPLANATION OF THE USE OF AN AZIMUTHAL EQUIDISTANT CHART**

The projection on which this chart is constructed possesses the unique property of showing as a straight line the Great Circle course and distance to any point in the map area from the point of construction, which is the center point. By using the true scale at the bottom of the chart, the Great Circle distance may be measured either in statute or nautical miles.

This Great Circle property is also extended in a limited degree to the areas adjacent to the center of construction. Hence, on an azimuthal equidistant chart of the world centered on the United States, a straight line from any part of the United States to any other part of the map would represent the Great Circle route and would scale the Great Circle distance with a maximum error of 2%.

Bearings indicated are to the nearest degree, clockwise to the north.





# ARRL Phonetic Alphabet

<b>A</b>	<b>ADAM</b>
<b>B</b>	<b>BAKER</b>
<b>C</b>	<b>CHARLIE</b>
<b>D</b>	<b>DAVID</b>
<b>E</b>	<b>EDWARD</b>
<b>F</b>	<b>FRANK</b>
<b>G</b>	<b>GEORGE</b>
<b>H</b>	<b>HENRY</b>
<b>I</b>	<b>IDA</b>
<b>J</b>	<b>JOHN</b>
<b>K</b>	<b>KING</b>
<b>L</b>	<b>LEWIS</b>
<b>M</b>	<b>MARY</b>
<b>N</b>	<b>NANCY</b>
<b>O</b>	<b>OTTO</b>
<b>P</b>	<b>PETER</b>
<b>Q</b>	<b>QUEEN</b>
<b>R</b>	<b>ROBERT</b>
<b>S</b>	<b>SUSAN</b>
<b>T</b>	<b>THOMAS</b>
<b>U</b>	<b>UNION</b>
<b>V</b>	<b>VICTOR</b>
<b>W</b>	<b>WILLIAM</b>
<b>X</b>	<b>X-RAY</b>
<b>Y</b>	<b>YOUNG</b>
<b>Z</b>	<b>ZEBRA</b>

## ON GOOD PHONE OPERATING

1. Listen much . . . with care. Avoid distractions in your operating room. Tune the band well after each call.
2. Time your calls; monitor your own frequency. Call only when a station is free.
3. Make short calls, with breaks to listen. Speak clearly, at a steady, modest rate. Three short calls are better than one long one.
4. Use push-to-talk technique . . . speak near the mike. Watch the modulation indicator. Keep local background noise at a minimum.
5. Make notes. Avoid missing points for comment. Jot down topics to avoid repeats.
6. Talk in connected thoughts and phrases. Notes will help avoid mixing up subjects. Push-to-talk technique will keep brother amateurs from calling you a monologist.
7. Speak naturally. QSOs need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use of this standard list is recommended by ARRL. Haphazard selection of words often results in confusion. A degree of uniformity in use of phonetic words reflects favorably on your individual operating, and on the whole amateur service.

ARRL Communications Department.

## SPECIAL ARRL QN SIGNALS FOR NET USE

QNA*	Answer in prearranged order.
QNB*	Act as relay Between . . . . . and . . . . .
QNC	All net stations Copy. I have a message for all net stations.
QND*	Net is Directed (controlled by net control station).
QNE*	Entire net please stand by.
QNF	Net is Free (not controlled).
QNG	Take over as net control station.
QNH	Your net frequency is High.
QNI	Net stations report In,* I am reporting into the net.
QNJ	Can you copy me? Can you copy . . . . . ?
QNK*	Transmit messages for . . . . . to . . . . .
QNL	Your net frequency is Low.
QNM*	You are QRMing the net. Please stand by.
QNN	Net control station is . . . . . * What station has net control ?
QNO	Station is leaving the net.
QNP	Unable to copy you (or . . . . .).
QNQ*	Move frequency to . . . and wait for . . . to finish handling traffic. Then send him traffic for . . . . .
QNR*	Answer . . . and Relay (or Receive) traffic.
QNS	Following Stations are in the net.* (Follow with list). Request list of stations in the net.
QNT	Leaving net Temporarily (or for . . . minutes).
QNU*	The net has traffic for YOU. Stand by.
QNV*	Establish contact with . . . . . on this frequency. If successful, move to . . . and send him traffic for . . .
QNW	How do I route messages for . . . . . ?
QNX	You are excused from the net.* Request to be excused from the net.
QNY*	Shift to another frequency (or to . . . kc.) to clear traffic with . . . . .
QNZ	Zero beat your signal with mine.

\*For use only by Net Control Station

### Notes on the Use of QN Signals

1. The QN signals listed above are special ARRL signals for use in amateur c.w. nets only. Other meanings that may be used in other services do not apply.
2. Some QN signals are for use by net control stations only; these are marked with an asterisk (\*). Others have slightly different meanings when used by the NCS and net stations; in this case, the meaning when used by the NCS is marked with an asterisk (\*).
3. Some QN signals have two meanings, the difference depending on how or by whom used. Examples: (a) QNC, when used as a preface to transmission of a message, carries its first meaning; when used by a station reporting into the net (e.g., W9NCS DE W9NET QNI QNC), it carries its second meaning. (b) QNI, when used by the NCS, is a request for stations to report in; when used by a net station, it means that this station is reporting in. (c) QNJ, when used alone, carries its first meaning; when followed by a call, it carries the second meaning.
4. QN signals are never followed by a question mark, even though the meaning may be interrogatory.
5. Do not use QN signals on phone nets. Say it with words.
6. Use QN signals in nets only. They are not for use in casual amateur conversation.
7. Make frequent use of standard international "Q" signals in traffic nets, for meanings not covered by QN signals. Examples: QRU, QRV, QSV, QTA, QTB, QTX, etc.

ARRL Communications Department

## FEDERAL COMMUNICATIONS COMMISSION EXAMINATION POINTS

Examinations for commercial and amateur radio operator licenses are conducted at the following F.C.C. field offices on the days designated by the Engineer in Charge of each office. Specific dates should be obtained from the Engineer in Charge.

Dist. No.	Office Location
1 - BOSTON, MASSACHUSETTS 02109	1600 Customhouse
2 - NEW YORK, NEW YORK 10014	748 Federal Building, 641 Washington Street
3 - PHILADELPHIA, PENNSYLVANIA 19106	1005 New U. S. Customhouse
4 - BALTIMORE, MARYLAND 21202	415 U. S. Customhouse, Gay and Water Streets
5 - NORFOLK, VIRGINIA 23510	405 Federal Building
6 - ATLANTA, GEORGIA 30303	2010 Atlanta Merchandise Mart, 240 Peachtree St, NE
6S - SAVANNAH, GEORGIA 31402	238 Post Office Building, Box 77
7 - MIAMI, FLORIDA 33101	51 S. W. First Av, Room 919
7T - TAMPA, FLORIDA 33602	759 Federal Office Bldg, 500 Zack Street
8 - NEW ORLEANS, LOUISIANA 70130	608 Federal Office Building, 600 South Street
8M - MOBILE, ALABAMA 36602	439 U. S. Court & Customhouse
9 - HOUSTON, TEXAS 77002	5636 New Federal Office Building, 515 Rusk Avenue
9B - BEAUMONT, TEXAS 77704	301 Post Office Building, 300 Willow Street
10 - DALLAS, TEXAS 75202	1314 Wood Street, Room 707
11 - LOS ANGELES, CALIFORNIA 90014	Room 50 Mezzanine Floor, 849 South Broadway
11SD - SAN DIEGO, CALIFORNIA 92101	Fox Theatre Building, 1245 Seventh Avenue
12 - SAN FRANCISCO, CALIFORNIA 94126	323A Customhouse, 555 Battery Street
13 - PORTLAND, OREGON 97205	441 New U. S. Courthouse, 620 S. W. Main Street
14 - SEATTLE, WASHINGTON 98104	806 Federal Office Building, 1st Avenue and Marion St.
15 - DENVER, COLORADO 80202	521 New Customhouse, 19th bet. California and Stout St.
16 - ST. PAUL, MINNESOTA 55102	208 Federal Courts Building, 6th and Market Streets
17 - KANSAS CITY, MISSOURI 64106	3100 Federal Office Building, 911 Walnut Street
18 - CHICAGO, ILLINOIS 60604	1872 U.S. Courthouse, 219 S Dearborn St.
19 - DETROIT, MICHIGAN 48226	1029 Federal Building
20 - BUFFALO, NEW YORK 14203	328 Post Office Building, Ellicott and Swan Streets
21 - HONOLULU, HAWAII 96808	502 Federal Building, 335 South King Street
22 - SAN JUAN, PUERTO RICO 00903	322-323 U.S. Post Office & Courthouse
23 - ANCHORAGE, ALASKA 99501	55 U. S. Post Office Building, Box 644
24 - WASHINGTON, D.C. 20555	1101 Pennsylvania Avenue N.W., Room 10110



# STANDARD TIME THROUGHOUT THE WORLD

The standard time system is based on the theoretical division of the surface of the globe into 24 zones, each of 15° of longitude. The initial zone is the one which has as its central meridian the Greenwich Meridian and with the meridians 7° 30' E. and 7° 30' W. as its eastern and western limits. Time in this zone is called Greenwich Mean Time, or GMT. Places to the east of Greenwich have faster time than Greenwich, while places to the west have slower time. Not all countries follow the International Time Zone System, but some use the time of some principal city as a standard and others have no standard time.

Reference - "Standard Time Chart of the World" No. 5192, published by U. S. Navy Hydrographic Office, Washington, D. C.

The theoretical system described is applied, in a strict sense, only in oceanic regions. On land or on groups of islands the system is applied with certain local deviations, which, are rendered necessary by frontiers, convenience of an entire island group to maintain same zone time, etc. The time used in each country, whether it is the time of the corresponding zone or modified for reasons given, is an hour fixed by law and, for this reason, is called legal time, or more generally standard time.

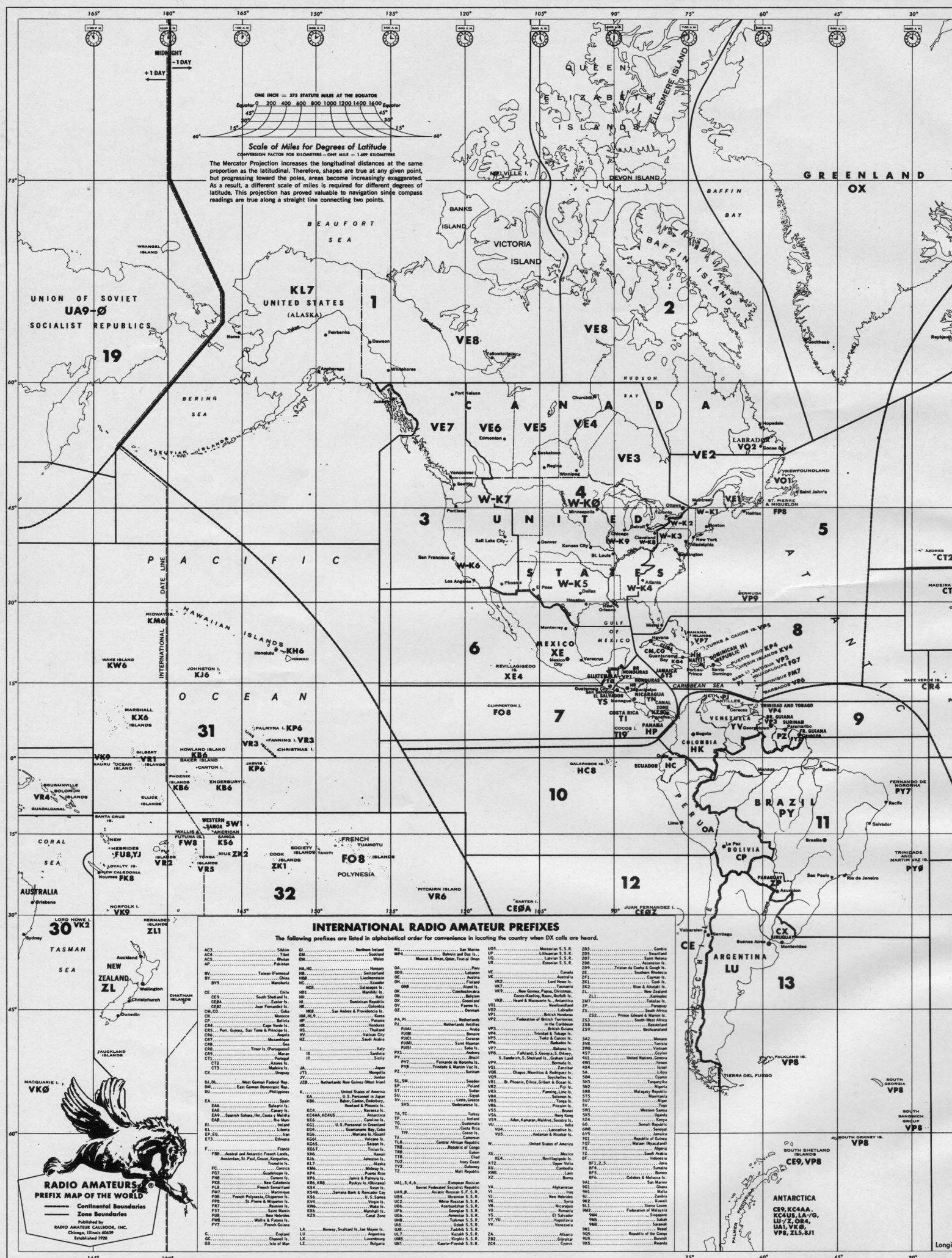
Another deviation from this theoretical system is that certain countries, for economic reasons, modify their legal time for part of the year, especially in summer, by advancing it an hour or another fraction of time. Where such deviations are maintained on a year-round basis, the time kept is considered to be standard time.

Country	Standard or Local Time		Country	Standard or Local Time		Country	Standard or Local Time	
	Hours fast or slow of GMT	Time at 1200 hrs. GMT		Hours fast or slow of GMT	Time at 1200 hrs. GMT		Hours fast or slow of GMT	Time at 1200 hrs. GMT
Aden, Kamanar, Socotra Is.	+ 3	15 00	Faeroe Is.	0	12 00	Pakistan, West.	+ 5	17 00
Afghanistan	+ 4 1/2	16 30	Falkland Is.	- 4	08 00	Pakistan, East.	+ 6	18 00
Alaska, Juneau, Ketchikan, Sitka.	- 8	04 00	Fanning & Line Is.	- 10	02 00	Panama	- 5	07 00
Yakutat	- 9	03 00	Fiji Is.	+ 12	24 00	Paraguay	- 4	08 00
Central part, Kodiak Is.	- 10	02 00	Finland, Åland Is.	+ 2	14 00	Peru	- 5	07 00
West coast, Aleutian Is.	- 11	01 00	France, Corsica	+ 1	13 00	Philippines	+ 8	20 00
Albania	+ 1	13 00	French Polynesia	- 10	02 00	Pitcairn Is.	- 10	02 00
Algeria	+ 1	13 00	Gabon	+ 1	13 00	Poland	+ 1	13 00
Amsterdam, St. Paul, Kerguelen Is.	+ 5	17 00	Gambia	0	12 00	Portugal	0	12 00
Andorra	+ 1	13 00	Germany	+ 1	13 00	Prince Edward & Marion Is.	+ 3	15 00
Angola	+ 1	13 00	Ghana	0	12 00	Puerto Rico	- 4	08 00
Argentina	- 4	08 00	Gibraltar	+ 1	13 00	Qatar	+ 4	16 00
Ascension Is., St. Helena Is.	0	12 00	Gilbert & Ellice Is.	+ 12	24 00	Reunion Is.	+ 4	16 00
Australia, Western Australia	+ 8	20 00	Goa	+ 5 1/2	17 30	Rhodesia, Southern	+ 2	14 00
Northern Territory, South Australia	+ 9 1/2	21 30	Greece, Crete, Dodecanese Is.	+ 2	14 00	Rio Muni	+ 1	13 00
New South Wales, Queensland, Victoria	+ 10	22 00	Greenland, western	- 4	08 00	Rumania	+ 2	14 00
Lord Howe Is., Tasmania Is.	+ 10	22 00	Guantanamo Bay	- 5	07 00	Rwanda	+ 2	14 00
Austria	+ 1	13 00	Guatemala	- 6	06 00	Ryukyu Is. (Okinawa)	+ 9	21 00
Azores Is.	- 2	10 00	Guiana, British	- 3 3/4	08 15	Sabah, Sarawak (Malaysia)	+ 8	20 00
Bahama Is.	- 5	07 00	Guiana, French	- 4	08 00	St. Pierre & Miquelon Is.	- 3	09 00
Bahrain	+ 4	16 00	Guinea, Portuguese	- 1	11 00	Samoa Is.	- 11	01 00
Baker, Canton, Enderbury, Howland & Phoenix Is.	- 11	01 00	Guinea, Republic of	0	12 00	San Marino	+ 1	13 00
Basutoland	+ 2	14 00	Haiti	- 5	07 00	Sao Tome & Principe Is.	0	12 00
Bechuanaland	+ 2	14 00	Hawaii	- 10	02 00	Sarawak	+ 8	20 00
Belgium	+ 1	13 00	Heard Is.	+ 5	17 00	Saudi Arabia**	0	12 00
Bermuda Is.	- 4	08 00	Honduras	- 6	06 00	Senegal	0	12 00
Bhutan	+ 5 1/2	17 30	Hong Kong	+ 8	20 00	Serrana Bank & Roncador Cay	- 5	07 00
Bolivia	- 4	08 00	Hungary	+ 1	13 00	Seychelles Is.	+ 4	16 00
Bonin, Volcano, Mariana, Saipan, Tinian, Guam Is.	+ 10	22 00	Iceland	- 1	11 00	Sierra Leone	0	12 00
Borneo (Indonesian)	+ 7 1/2	19 30	Idni	0	12 00	Sikkim	+ 5 1/2	17 30
Brazil, Fernando Noronha, Trindade & Martim Vaz Is.	- 2	10 00	India, Andaman & Nicobar, Laccadive Is.	+ 5 1/2	17 30	Singapore	+ 7 1/2	19 30
East of 52° 30' W (approx)	- 3	09 00	Iran	+ 3 1/2	15 30	Solomon Is.	+ 11	23 00
Amazonas, Matto Grosso	- 4	08 00	Iraq	+ 3	15 00	Somali Republic	+ 3	15 00
Acre Territory	- 5	07 00	Ireland	0	12 00	Somaliland, French	+ 3	15 00
British Honduras	- 5 1/2	06 30	Israel	+ 2	14 00	South Africa	+ 2	14 00
British Isles	0	12 00	Italy, Sardinia, Sicily	+ 1	13 00	South Georgia Is., South Sandwich Is.	- 2	10 00
British Phoenix Is.	- 11	01 00	Ivory Coast	0	12 00	South Shetland Is., South Orkney Is*	+ 2	14 00
Brunei	+ 8	20 00	Jamaica	- 5	07 00	South-West Africa	+ 2	14 00
Bulgaria	+ 2	14 00	Jan Mayen Is.	- 1	11 00	Spain, Balearic Is., Ceuta y Melilla	+ 1	13 00
Burma	+ 6 1/2	18 30	Japan	+ 9	21 00	Spanish Sahara (Rio de Oro)	0	12 00
Burundi	+ 2	14 00	Jarvis & Palmyra Is.	- 10	02 00	Sudan	+ 2	14 00
Cambodia	+ 7	19 00	Java (Indonesian)	+ 7 1/2	19 30	Sumatra Is. (Indonesian), west.	+ 6 1/2	18 30
Cameroun	+ 1	13 00	Johnston Is.	- 11	01 00	east	+ 7	19 00
Canada, Belle Isle, Labrador, Newfoundland	- 3 1/2	08 30	Jordan	+ 2	14 00	Surinam (Netherlands Guiana)	- 3 1/2	08 30
Anticosti Is., Cape Breton Is., Magdalen Is., New Brunswick, Nova Scotia, Prince Edward Is., Quebec (E of 68° W), Sable Is., Melville Peninsula (east), Ontario (E of 90° W), Quebec (W of 68° W), Southampton Is.	- 4	08 00	Kenya	+ 3	15 00	Swan Is.	- 6	06 00
Manitoba, Ontario (W of 90° W), Melville Peninsula (west), N. W. Territories (east)	- 6	06 00	Korea	+ 9	21 00	Swaziland	+ 2	14 00
Alberta, Saskatchewan, N. W. Territories (middle)	- 7	05 00	Kuwait	+ 3	15 00	Sweden	+ 1	13 00
British Columbia, N. W. Territories (west)	- 8	04 00	Laos	+ 7	19 00	Switzerland	+ 1	13 00
Yukon	- 9	03 00	Lebanon	+ 2	14 00	Syria	+ 2	14 00
Arctic Is*	- 9	03 00	Liberia	- 3/4	11 15	Taiwan (Formosa)	+ 8	20 00
Canal Zone	- 5	07 00	Libya	+ 2	14 00	Tanganyika	+ 3	15 00
Canary Is.	0	12 00	Liechtenstein	+ 1	13 00	Thailand	+ 7	19 00
Cape Verde Is.	- 2	10 00	Luxembourg	+ 1	13 00	Tibet	+ 6	18 00
Caroline Is., Western	+ 9	21 00	Macao	+ 8	20 00	Timor Is.	+ 8	20 00
Eastern	+ 11	23 00	Macquarie Is.	+ 11	23 00	Togo	0	12 00
Cayman Is.	- 5	07 00	Madeira Is.	- 1	11 00	Tokelau Is.	- 11	01 00
Celebes Is. (Indonesian)	+ 8	20 00	Malagasy Republic (Madagascar Is.)	+ 3	15 00	Tonga (Friendly) Is.	+ 12 1/3	00 20
Central African Republic	+ 1	13 00	Malawi (Nyasaland)	+ 2	14 00	Tristan de Cunha & Gough Is.	0	12 00
Ceylon Is.	+ 5 1/2	17 30	Malaysia	+ 7 1/2	19 30	Tromelin Is.	+ 4	16 00
Chad	+ 1	13 00	Maldives Is.	+ 5	17 00	Trucial Oman	+ 4	16 00
Chagos Is.	+ 5	17 00	Mali Republic	0	12 00	Tunisia	+ 1	13 00
Chatham Is.	+ 12 3/4	00 45	Malta Is.	+ 1	13 00	Turkey	+ 2	14 00
Chile, Juan Fernandez Is.	- 4	08 00	Manchuria	+ 8	20 00	Uganda	+ 3	15 00
China, Western part	+ 5	17 00	Manihiki Is.	- 11	01 00	United States of America, Eastern time	- 5	07 00
Mid-western part	+ 6	18 00	Marshall Is., Wake Is.	+ 12	24 00	Central time	- 6	06 00
Mid-eastern part	+ 7	19 00	Mauritania	0	12 00	Mountain time	- 7	05 00
Eastern part	+ 8	20 00	Mauritius & Rodriguez Is.	+ 4	16 00	Pacific time	- 8	04 00
Christmas Is.	+ 7	19 00	Mexico, east of states of Sonora, Sinaloa & Nayarit	- 6	06 00	Upper Volta	0	12 00
Clipperton Is.	- 7	05 00	Sonora, Sinaloa, Nayarit, Baja California (south of 28° N), Revillagigedo Is.	- 7	05 00	Uruguay	- 3	09 00
Cocos-Keeling Is.	+ 6 1/2	18 30	Baja California (north of 28° N)	- 8	04 00	U. S. S. R., Estonia, Latvia, Lithuania, Karelo-Finnish, White Russia, Ukraine, Moldavia,		
Colombia, San Andres & Providencia Is.	- 5	07 00	Midway Is.	- 11	01 00	European Russia	+ 3	15 00
Comora Is.	+ 3	15 00	Molucca Is. (Indonesian)	+ 8 1/2	20 30	Georgia, Armenia, Azerbaizhan	+ 4	16 00
Congo, Republic of (Brazzaville)	+ 1	13 00	Monaco	+ 1	13 00	Kazakh, Uzbek, Turkmen, Tadzhik	+ 5	17 00
Congo, Republic of the (Leopoldville), western part	+ 1	13 00	Mongolia*	0	12 00	Kirghiz, West Siberian region	+ 6	18 00
Eastern part	+ 2	14 00	Morocco	0	12 00	Approx. 82° 30' to 97° 30' W.	+ 7	19 00
Cook Is.	- 10 1/2	01 30	Mozambique	+ 2	14 00	Buryat, East Siberian region	+ 8	20 00
Costa Rica, Cocos Is.	- 6	06 00	Muscat & Oman	+ 4	16 00	Approx. 112° 30' to 127° 30' W.	+ 9	21 00
Crozet Is.	+ 3	15 00	Nauru Is., Norfolk Is.	+ 11 1/2	23 30	Kuril Is., Sakhalin Is.	+ 10	22 00
Cuba	- 5	07 00	Navassa Is.	- 5	07 00	Approx. 142° 30' to 157° 30' W.	+ 11	23 00
Cyprus Is.	+ 2	14 00	Nepal	+ 5 1/2	17 30	Approx. 157° 30' to 172° 30' W.	+ 12	24 00
Czechoslovakia	+ 1	13 00	Netherlands	+ 1	13 00	Approx. 172° 30' W. to coast	+ 13	01 00
Dahomey	+ 1	13 00	Netherlands Antilles	- 4 1/2	07 30	Venezuela	- 4	08 00
Das Is.	+ 4	16 00	New Caledonia Is., New Hebrides Is.	+ 11	23 00	Vietnam	+ 8	20 00
Denmark	+ 1	13 00	New Guinea N. E., Papua	+ 10	22 00	Wallis & Futuna Is.	+ 12	24 00
Dominican Republic	- 5	07 00	New Zealand, Kermadec Is.	+ 12	24 00	West Irian (Netherlands New Guinea)	+ 9 1/2	21 30
Easter Is.	- 7	05 00	Nicaragua	- 6	06 00	West Indies, Barbados, Trinidad, Tobago, Guadeloupe, Martinique, Leeward Is., Windward Is.	- 4	08 00
Ecuador, Galapagos Is.	- 5	07 00	Niger	0	12 00	Yemen**		
Egypt	+ 2	14 00	Nigeria	+ 1	13 00	Yugoslavia	+ 1	13 00
El Salvador	- 6	06 00	Niue & Aitutaki Is.	- 11 1/3	00 40	Zambia (Northern Rhodesia)	+ 2	14 00
Ethiopia	+ 3	15 00	Norway, Svalbard Is.	+ 1	13 00	Zanzibar Is.	+ 3	15 00

\* No definite standard time used.

\*\* "Arabic Time", i. e. daily all watches are set to midnight at sundown.









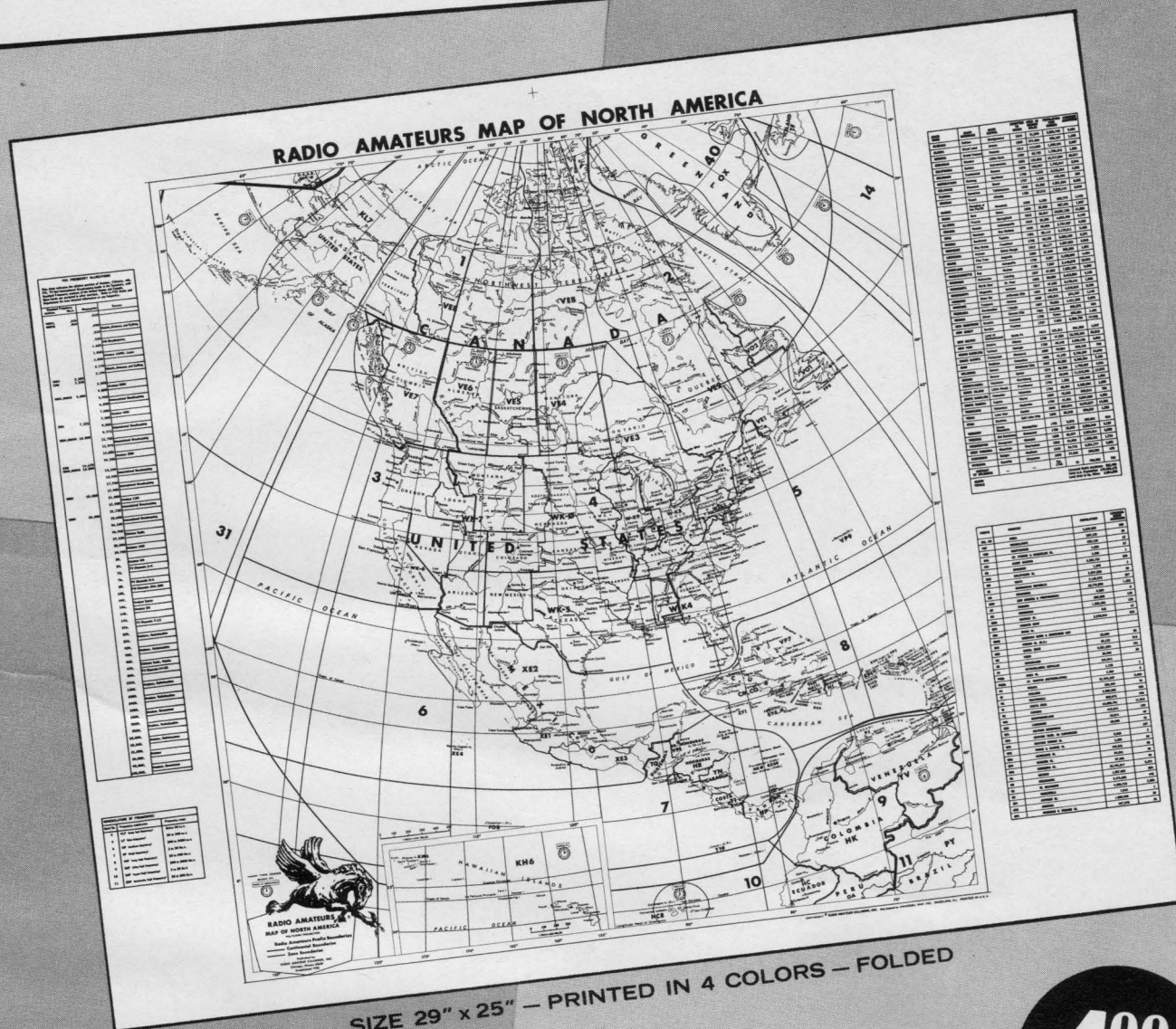


# INTERNATIONAL "Q" SIGNALS

Abbreviation	Question	Answer or Advice	Abbreviation	Question	Answer or Advice
QRA	What is the name of your station?	The name of my stations is . . .	QSX	Will you listen to . . . [call sign(s)] on . . . kc/s (or Mc/s)	I am listening to . . . [call sign(s)] on . . . kc/s (or Mc/s).
QRB	How far approximately are you from my station?	The approximate distance between our stations is . . . nautical miles (or kilometres)	QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency [or on . . . kc/s (or Mc/s)].
QRD	Where are you bound and where are you from?	I am bound for . . . from . . .	QSZ	Shall I send each word or group more than once?	Send each word or group twice (or . . . times).
QRG	Will you tell me my exact frequency or that of . . .?	Your exact frequency (or that of . . . is . . . kc/s (or Mc/s).	QTA	Shall I cancel telegram number . . . as if it had not been sent?	Cancel telegram number . . . as if it had not been sent.
QRH	Does my frequency vary?	Your frequency varies.	QTB	Do you agree with my counting of words?	I do not agree with your counting of words; I will repeat the first letter or digit of each word or group.
QRI	How is the tone of my transmission?	The tone of your transmission is . . . (1. Good; 2. Variable; 3. Bad).	QTC	How many telegrams have you to send?	I have . . . telegrams for you (or for . . .).
QRK	What is the readability of my signals (or those of . . .)?	The readability of your signals (or those of . . .) is . . . (1. Unreadable; 2. Readable now and then; 3. Readable, but with difficulty; 4. Readable; 5. Perfectly readable).	QTE	What is my TRUE bearing from you?  or What is my TRUE bearing from . . . (call sign)?  or What is the TRUE bearing of . . . (call sign) from . . . (call sign)?	Your TRUE bearing from me is . . . degrees (at . . . hours)  or Your TRUE bearing from . . . (call sign) was . . . degrees (at . . . hours)  or The TRUE bearing of . . . (call sign) from . . . (call sign) was . . . degrees at . . . hours.
QRL	Are you busy?	I am busy (or I am busy with . . .). Please do not interfere.	QTG	Will you send two dashes of ten seconds each followed by your call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]?  or Will you request . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s)?	I am going to send two dashes of ten seconds each followed by my call sign (repeated . . . times) [on . . . kc/s (or Mc/s)]  or I have requested . . . to send two dashes of ten seconds followed by his call sign (repeated . . . times) on . . . kc/s (or Mc/s).
QRM	Are you being interfered with?	I am being interfered with.	QTH	What is your position in latitude and longitude (or according to any other indication)?	My position is . . . latitude . . . longitude (or according to any other indication).
QRN	Are you troubled by static?	I am troubled by static.	QTI	What is your TRUE track?	My TRUE track is . . . degrees.
QRO	Shall I increase power?	Increase power.	QTI	What is your speed?	My speed is . . . knots (or kilometres per hour).
QRP	Shall I decrease power?	Decrease power.	QTL	What is your TRUE heading?	My TRUE heading is . . . degrees.
QRQ	Shall I send faster?	Send faster (. . . words per minute).	QTN	At what time did you depart from . . . (place)?	I departed from . . . (place) at . . . hours.
QRR	Are you ready for automatic operation?	I am ready for automatic operation. Send at . . . words per minute.	QTO	Have you left dock (or port)?  or Are you airborne?	I have left dock (or port)  or I am airborne.
QRS	Shall I send more slowly?	Send more slowly (. . . words per minute).	QTP	Are you going to enter dock (or port)?  or Are you going to alight (or land)?	I am going to enter dock (or port)  or I am going to alight (or land).
QRT	Shall I stop sending?	Stop sending.	QTR	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
QRU	Have you anything for me?	I have nothing for you.	QTR	What is the correct time?	The correct time is . . . hours.
QRV	Are you ready?	I am ready.	QTS	Will you send your call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that your frequency may be measured?	I will send my call sign for . . . minute(s) now (or at . . . hours) [on . . . kc/s (or Mc/s)] so that my frequency may be measured.
QRW	Shall I inform . . . that you are calling him on . . . kc/s (or Mc/s).	Please inform . . . that I am calling him on . . . kc/s (or Mc/s).	QTV	What are the hours during which your station is open?	My station is open from . . . to . . . hours.
QRX	When will you call me again?	I will call you again at . . . hours [on . . . kc/s (or Mc/s)].	QTV	Shall I stand guard for you on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours)?	Stand guard for me on the frequency of . . . kc/s (or Mc/s) (from . . . to . . . hours).
QRY	What is my turn?	Your turn is Number . . . (Relates to communication.)	QTX	Will you keep your station open for further communication with me until further notice (or until . . . hours)?	I will keep my station open for further communication with you until further notice (or until . . . hours).
QRZ	Who is calling me?	You are being called by . . . [on . . . kc/s (or Mc/s)].	QUA	Have you news of . . . (call sign)?	Here is news of . . . (call sign).
QSA	What is the strength of my signals (or those of . . .)?	The strength of your signals (or those of . . .) is . . . (1. Scarcely perceptible; 2. Weak; 3. Fairly good; 4. Good; 5. Very good).	QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of ground wind at . . . (place of observation)?	Here is the information requested . . .
QSB	Are my signals fading?	Your signals are fading.	QUC	What is the number (or other indication) of the last message you received from me [or from (call sign)]?	The number (or other indication) of the last message I received from you [or from . . . (call sign)] is . . .
QSD	Is my keying defective?	Your keying is defective.	QUD	Have you received the urgency signal sent by . . . (call sign of mobile station)?	I have received the urgency signal sent by . . . (call sign of mobile station) at . . . hours.
QSG	Shall I send . . . telegrams at a time?	Send . . . telegrams at a time.	QUF	Have you received the distress signal sent by . . . (call sign of mobile station)?	I have received the distress signal sent by . . . (call sign of mobile station) at . . . hours.
QSH	What is the charge to be collected per word to . . . including your internal telegraph charge?	The charge to be collected per word to . . . including my internal telegraph charge is . . . francs.	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land immediately.  or I shall be forced to alight (or land) at . . . (position or place).
QSK	Can you hear me between your signals?	I can hear you between my signals.	QUH	Will you give me the present barometric pressure at sea level?	The present barometric pressure at sea level is . . . (units).
QSL	Can you acknowledge receipt?	I am acknowledging receipt.			
QSM	Shall I repeat the last telegram which I sent you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s) . . .].			
JSN	Did you hear me [or . . . (call sign)] on . . . kc/s (or Mc/s)?	I did hear you [or . . . (call sign) on . . . kc/s (or Mc/s).			
QSO	Can you communicate with . . . direct or by relay?	I can communicate with . . . direct (or by relay through . . .).			
QSP	Will you relay to . . . free of charge?	I will relay to . . . free of charge.			
QSQ	Have you a doctor on board [or is . . . (name of person) on board]?	I have a doctor on board [or . . . name of person) is on board].			
QSU	Shall I send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	Send or reply on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			
QSV	Shall I send a series of V's on this frequency [or . . . kc/s (or Mc/s)]?	Send a series of V's on this frequency [or . . . kc/s (or Mc/s)].			
QSW	Will you send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .)?	I am going to send on this frequency [or on . . . kc/s (or Mc/s)] (with emissions of class . . .).			



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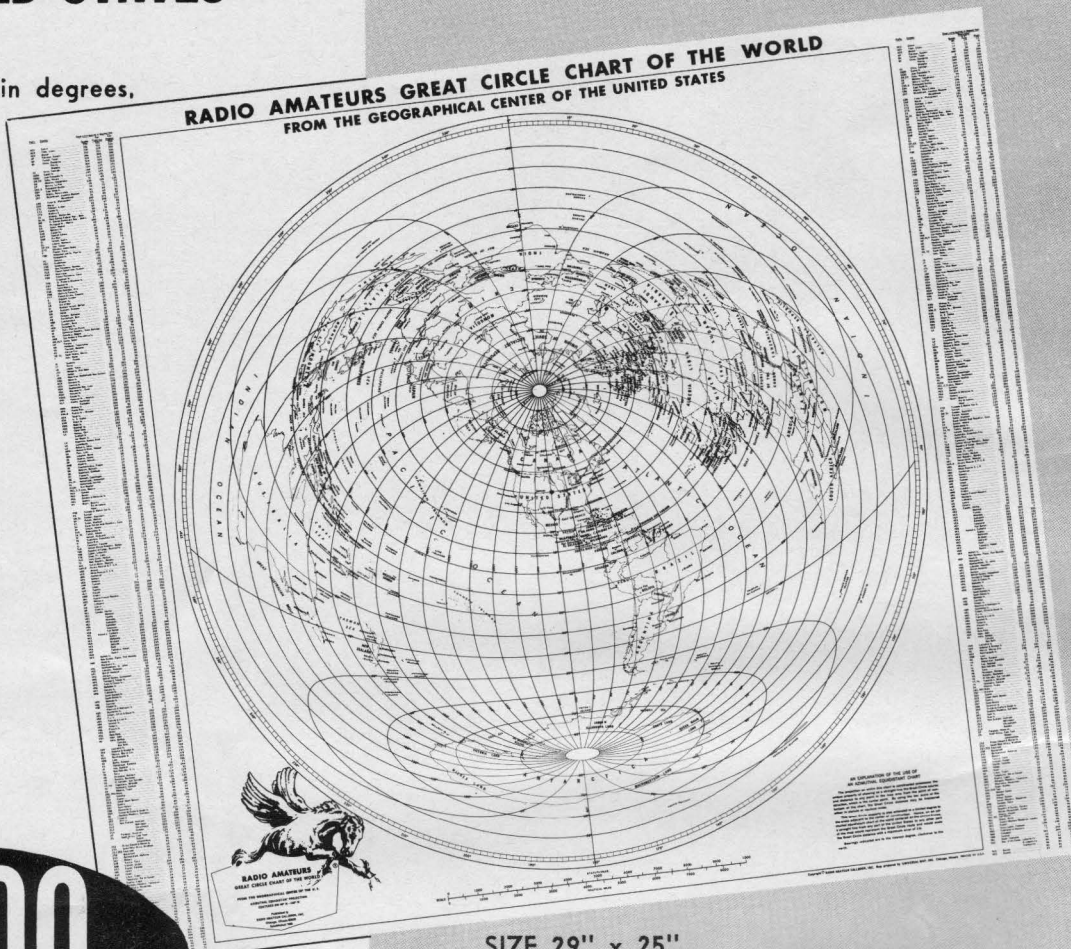
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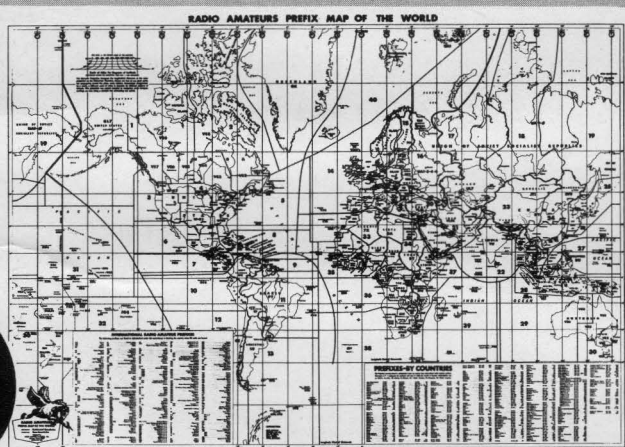
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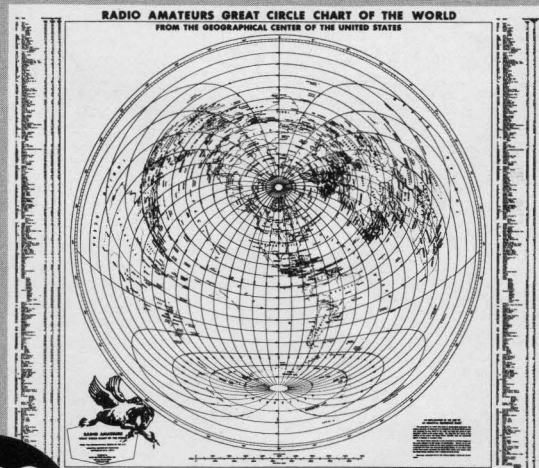
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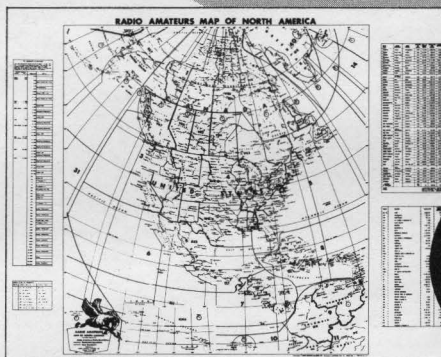
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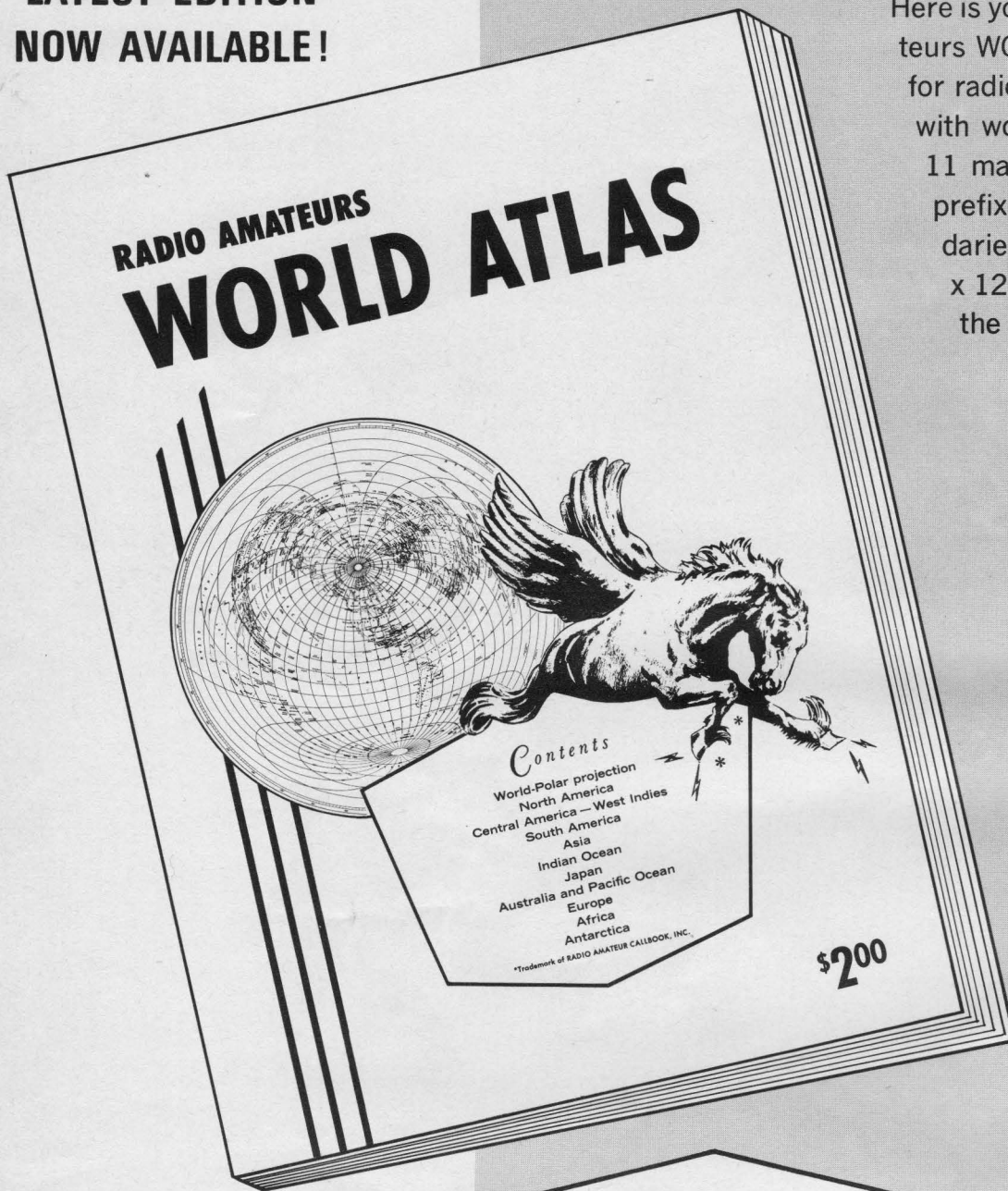
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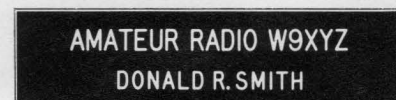
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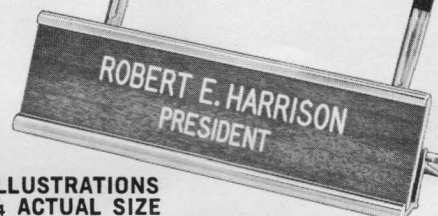
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<input type="checkbox"/> Door or rig	<input type="checkbox"/> Walnut Grained <input type="checkbox"/> Jet Black	<input type="checkbox"/> All letters same size <input type="checkbox"/> Large letters over small <input type="checkbox"/> Small letters over large	<input type="checkbox"/> 1" x 4" <input type="checkbox"/> 1" x 7" <input type="checkbox"/> 2" x 8"	
<input type="checkbox"/> Exec. Desk Set	<input type="checkbox"/> Walnut Grained <input type="checkbox"/> Jet Black	<input type="checkbox"/> All letters same size <input type="checkbox"/> Large letters over small <input type="checkbox"/> Small letters over large		<input type="checkbox"/> Gold <input type="checkbox"/> Silver
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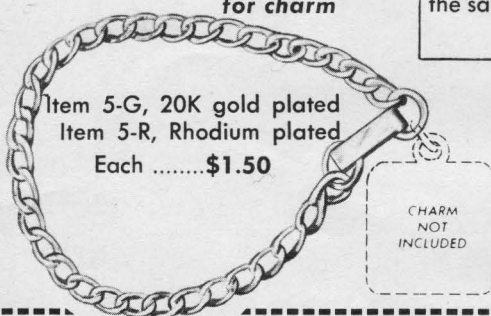
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... according to legend, winged and with blazing hoofs, mane flying, crossed the heavens with such speed I caused the crash of lightning and the roar of thunder.

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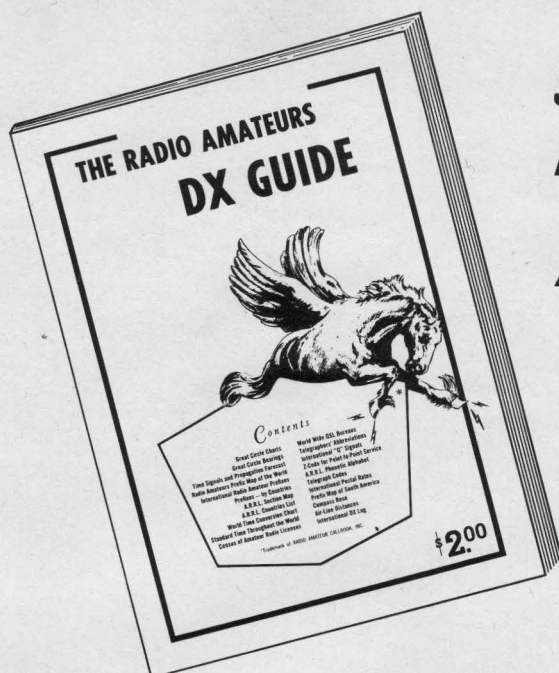
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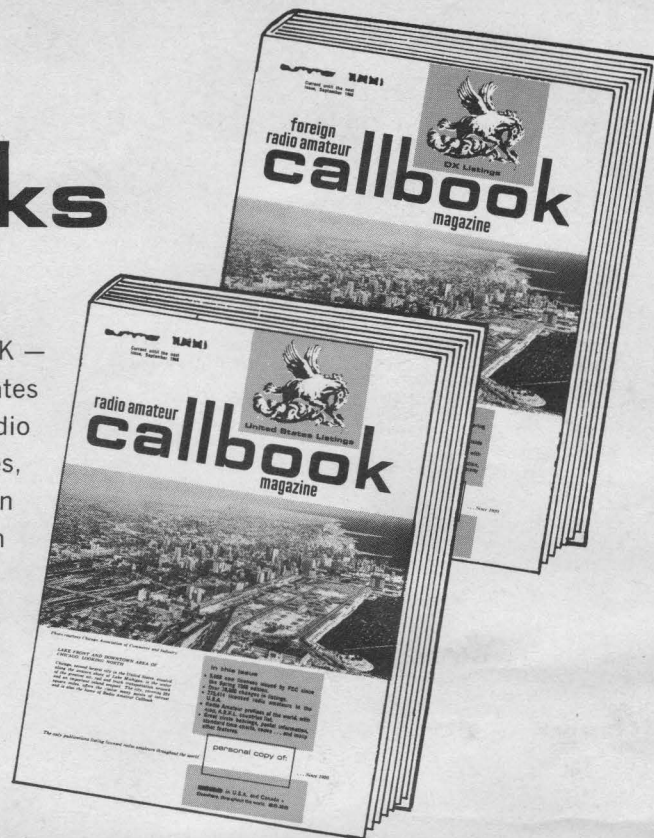


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